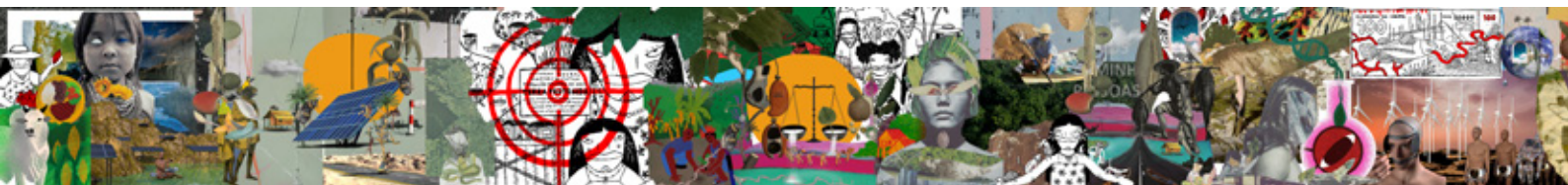




# INTERNATIONAL CONFERENCE THE AMAZON AND NEW ECONOMIES

## 2024



REALIZATION











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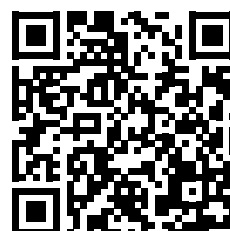
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**The artworks highlighted in this book are the result of a special invitation made by the Brazilian Mining Institute (IBRAM) for Amazonian artists to interpret, through their creations, the discussions and reflections of the panels at the Amazon and New Economies International Conference. More than just translating and illustrating, the works present a sensitive perspective that adds to the contents of the panels, expanding the dialogue and connecting the topics discussed to the cultural richness and experiences of the Amazon region. They represent an attempt to unite science and culture, demonstrating the real depth and richness of this encounter, revealing it as a path to understanding and building new perspectives for the future of the Amazon.**

To find out more about the **INTERNATIONAL CONFERENCE AMAZON AND NEW TECHNOLOGIES**, visit the link or scan the QR Code.

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# **INTERNATIONAL CONFERENCE THE AMAZON AND NEW ECONOMIES**

**NOVEMBER – 6<sup>TH</sup>, 7<sup>TH</sup> AND 8<sup>TH</sup>**

**BELÉM – BRAZIL | 2024**





Picture of Ilha do Combu – Belém do Pará



## PREFACE

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### Helder Barbalho

Governor of the State of Pará



**T**he second edition of the Amazon and New Economies International Conference brought together hundreds of people with deep, complex, and, above all, diverse worldviews to the state of Pará. Over the three days of the event, we engaged in dialogue with indigenous peoples, quilombolas, academics, businesspeople, representatives from the productive sector, environmentalists, parliamentarians, diplomats, and government officials in a vast roundtable discussion on the new productive paradigm for the Amazon. This reality is moving towards a reconciliation between nature preservation and income generation through the green economy, with low carbon emissions.

As governor of a forested state, I consider it a significant achievement to have put Belém on the map of such important discussions about the environmental challenges of our region, which are at the heart of this seminar. This convergence of multiple perspectives offers a new understanding of the Amazon, helping to foster a deeper comprehension of both the land and its people.

We had a unique opportunity for this high-level audience to engage directly with those who know the Amazon best—here, in the Amazon, discussing the Amazon. Not the theoretical Amazon, nor the imaginary, distant, abstract version, but the real Amazon, where 29 million people

live and must find a way to survive while preserving the forest's wealth.

The more people understand the Real Amazon, which needs real solutions for real people, the closer we get to building consensus on practical, environmentally sound solutions that help preserve the planet with both environmental sustainability and economic rationality.

In 2025, the state of Pará will host COP 30 in November, and Belém will become the world capital of the environment. It is clear that an event of this magnitude will mark a historic milestone for Belém and Pará, bringing profound transformations, infrastructure investments, and improvements in all sectors. However, the most important outcome will be our ability to consolidate our prominent role in the global climate debate.

We are convinced that the search for solutions is a necessity, as the economy that brought us to this point will not lead us into the future. Either we reduce emissions and stop global warming, keeping the forest alive, or it will be our end.

It is imperative that we identify alternatives for the future, whether through biofuels, rare metals, or the forest-based socio-bio-economy, of which we are so proud. Brazil can—and should—lead this agenda.



## PRESENTATION

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**E**xposing the true face of mining to a wide range of audiences: an activity that contributes to socioeconomic development and is essential for human life and the future of the planet.

This has been a major focus of the Board of Directors of the Brazilian Mining Institute, IBRAM. Moreover, it has everything to do with the mining industry's intense engagement with The Amazon and New Economies International Conference.

Even more so since, in fact, we cannot live in a society without mining. We, within this industry, bear the responsibility of guiding the sector towards the generation of resources and income, while always upholding a high standard of social responsibility, actively listening, demonstrating humility towards the host communities, striving for continuous improvement, and maintaining the highest level of transparency.

Our involvement with the Conference is one of the actions we take to put ourselves out there, listen to criticism, and share our stories with people. We want to inspire measures aimed at the purposes expressed at the Conference, that is, to propose directions to protect and develop the Amazon, respecting its population, its environment, its culture and its values.



**ANA SANCHES**

Chairman of the Board of Directors of IBRAM and President of Anglo American in Brazil

**EDINEY DRUMMOND**

Vice-President of the Board of Directors of IBRAM and President of Lundin Mining

In addition, we have been successful in this endeavor. Between the first and second edition, we found that more segments of society became involved in this commitment to defend one of humanity's main heritage sites. The IBRAM Board of Directors values good practices in daily corporate operations and strongly advocates that mining, or any other activity, should be conducted with due attention to people and the environment.

At the Conference, discussions on new economies stood out as instruments to boost the Amazon economy, to generate quality jobs and social promotion. And more traditional segments, such as mining, are also open to being included in this development project, as long as they are sustainable, safe and responsible towards people and the environment.

Responsible mining has been taking place in the Amazon for many decades, and technological advances and legislation have contributed greatly to qualifying the sustainable bases on which this industry operates.

According to the MapBiomass project, organized mining occupies only 0.1% of the territory and, despite this, it is a great generator of prosperity. Another point is that, as each project progresses, the land that has already been mined is recovered

and the majority of the concession area is kept intact. Our industry has a preserved area 11 times larger than the areas used for operations in Brazil. Thus, mining on sustainable bases is an intelligent strategy for land use.

At the Conference, mining presented this scenario in which it positions itself as a viable alternative for economic development policies, but it was vehement in positioning itself against the activities that most destroy the Amazon: illegal mining and the criminal actions it finances. Data from MapBiomass from 2022 shows that the Amazon concentrated almost all (92%) of the area illegally mined in Brazil. It is not possible to tolerate this degrading situation for the Amazon.

The Conference has been a space for different sectors to take positions, hear other perceptions and seek consensus in favor of the Amazon. This second edition was a remarkable and diverse meeting, above all, and one of very transparent dialogue, which reinforced the relevance of sustainability on the sector's agenda.

This experience has given us even greater conviction that the mineral sector has a crucial role to play in building a competitive Brazil, but, above all, one that is sustainable and responsible towards society.



## PRESENTATION

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**A**s we close the second edition of the Amazon and New Economies International Conference it is gratifying to convey to society that the overall evaluation indicates that the objectives set have been achieved. An action that is not just from the mining industry, but from representatives of multiple segments, from various nations, united by a common good for all: to establish directions so that we can effectively go beyond the discourse and protect and develop the Amazon safely, sustainably and responsibly.

It was absolutely clear to everyone present in Belém the commitment made not only to our present and our future, in the face of the climate emergency, but also in the face of the atrocities that have been committed in the Amazon against people – indigenous peoples and other citizens –, against the environment, against the economy.

Just like in the first edition, in 2023, we brought voices from various parts of the planet to share experiences and opinions to inspire us to deal with issues involving the Amazon, its people, its culture and biodiversity. Free and spontaneous demonstrations prevailed and feasible proposals emerged from this environment that deserve to be analyzed in more depth and may result in the structuring



of new public policies and national and international pacts for the Amazon.

So much in fact that this publication, featuring the highlights of the Conference, will serve the purposes of one of the most significant climate forums, the United Nations Climate Change Conference (COP). The 30th edition is scheduled for Brazil and the Amazon will occupy a prime space in high-level discussions involving the future of the planet in light of climate facts and risks.

Without a revitalized Amazon, capable of continuing to generate a series of benefits, including climate balance, for Brazilians and for humanity in general, we will be in an environment marked by the most absolute contradiction. This becomes obvious when we analyze history, that is, throughout the centuries we have always sought to improve our quality of life and life expectancy. With the Amazon at the mercy of destruction in several aspects, in reality we will be moving backwards, that is, towards the point of no return, the feared tipping point.

Those who organized, supported, sponsored, participated in the two editions of the Amazon and New Economies International Conference can be proud of having contributed decisively to building a legacy for our and future generations.

Moreover, we must all be united and demand action to advance the proposals intensely debated in this forum. We cannot waste this wealth of content that was possible to build.

One aspect that caught people's attention was the fact that this Conference was a stage for people and organizations, both public and private, to demonstrate their willingness and maturity to renounce any self-interest and think about others, about their fellow human beings, not using the Amazon to talk about themselves, to project their business or personal brand. By representing IBRAM, the Brazilian Mining Institute, I saw more clearly that mining and other economic industries were truly committed to contributing to the development of the Amazon, aware of the need to listen to and take into account the opinions, desires and expectations of Amazonians regarding the future of the region, where new economies are emerging as a relevant part of this proactive trajectory.

I end this message with a deep and well-deserved thank you, given the great work carried out by the large team that made the Conference such a huge success so far and, in particular, to the IBRAM Board of Directors, which, on behalf of the associated companies, gave unrestricted support to this initiative.

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## KEYNOTE SPEAKER PANEL

# GLOBAL CLIMATE SCENARIO

**STAGE 1 – Guamá River**  
November 6<sup>th</sup>, at 3:30 PM

### KEYNOTE SPEAKER

**Laurence Tubiana:** CEO of the European Climate Foundation (ECF) and Professor at Sciences Po, Paris

### MODERATOR

**Izabella Teixeira:** former Minister of the Environment, co-chair of the International Resource Panel of the United Nations Environment Program (IRP-UNEP), member of the UN Economic and Social Council, advisor emeritus of the Brazilian Center for International Relations (CEBRI) and senior fellow at the Arapyaú Institute



*The climate community must unite and organize to protect the Paris Agreement, which was put at risk with the election of Donald Trump in the United States – called on CEO of the European Climate Foundation (ECF), Laurence Tubiana, opening the Amazon and New Economies International Conference. One of the architects of the Agreement, she highlighted Brazil's role in positioning COP 30 as a crucial moment in global climate action. The country must show the importance of multilateralism and cooperative climate solutions, acting as a leader, at the same time as it will need to align national policies with international ones to maintain credibility.*







Artist: Julia Goulart  
Technique: Collage

In the lecture that opened the 2024 Amazon and New Economies International Conference, the CEO of the European Climate Foundation (ECF), Laurence Tubiana, called on the climate community and all people working for the climate to organize themselves in the face of risks that the Paris Agreement goes through.

She believes that Donald Trump's re-election as president of the United States could have a negative impact on the Agreement. However, the professor from Sciences Po

(Paris Institute of Political Studies) emphasized that Brazil will be a key country to lead an international movement to protect the decisions made in 2015 under the Paris Agreement. Especially because Brazil will host COP 30 in 2025, the year in which the Agreement will complete 10 years.

Regardless of the result in the American election, she believes that both China and the countries of Europe will continue working to maintain the Agreement and is sure that Brazil will also remain focused.

"I became optimistic after talking to Raul Jungmann [president of IBRAM], because we are now working closely with Brazilian society," said Tubiana.

For Tubiana, who acted as negotiator of the Paris Agreement, hosting COP 30 represents Brazil's entry into the world of COPs, which tends to project the country internationally. This is taking place at a time of political polarization, a liquidity crisis for low-income countries and a series of significant military conflicts around the world. "This is a great opportunity for Brazil, its government and its society," she said.

For her, it will be up to Brazil to find a common ground between the countries' divergent interests, at a time when the world is lost, with no leadership in this matter. "That's why we don't need an intermediary, but a leader," she said. As a democracy of the Global South, Brazil must show the importance of multilateralism and cooperative climate solutions.

However, to achieve this, the country needs to go beyond short-term national interests and do its homework, setting an example. "It is impossible to be a leader without doing the work at home as well", she stated. Therefore, Brazil must align national and international policies to obtain maximum legitimacy and impact.

"COP 30 will be the COP of forests and will put Brazil on the spotlight to the rest of the world. Brazil, as we know, is a democracy, it is part of the BRICS, it is part of the Global South and it is important that Brazil fulfills all these roles to truly realize its potential", she affirmed. She believes that few countries will be able to provide solutions and lead this energy transition – starting with the ability to offer the minerals needed for a low-carbon

economy. "In other words, this is an excellent economic opportunity for Brazil."

According to Tubiana, the country also stands out in the bioeconomy, Payment for Environmental Services, forest restoration and soil recovery. Therefore, Tubiana understands that climate and biodiversity should be addressed together when talking about the carbon market, and especially defending the rights of the people who live in forests. The private sector must be considered a vital piece in this puzzle, forming coalitions that generate results with transparency and accountability.

To address the climate crisis, Tubiana advocated for more ambitious and consistent Nationally Determined Contributions (NDCs). Countries must align their climate and economic development plans by 2035, which involves a debate on low-carbon food systems and the replacement of fossil fuels.

Tubiana also recommended that Europe focus on the development of the circular economy and restrict subsidies to fossil fuels only for the most vulnerable portion of the population, who need this type of energy to survive. She also noted that both Europe and the United States have fallen behind China, which has been advancing since 2010 in the development of cleaner energy.

## CHANGE OF SCALE IN FINANCING

However, she considered that it will not be possible to succeed in the search for a low-carbon economy without defining a new level of global financing, which will need to move from the scale of billions to trillions.



“We need USD 3 trillion per year and this resource must come from international sources. We need more capital provided by development banks and a secure source of funds – and this will require reforming financial institutions,” she added.

She advocated for royalties from the lucrative oil and gas industry to be used to finance climate mitigation and adaptation. Among other sources of funds, she also mentioned the taxation of financial transactions, cryptocurrencies, private aviation, first-class airline tickets and the fortunes of the super-rich.

For Tubiana, the amount needed to address the climate emergency may sound high, but the cost of inaction has already been substantial. According to data from insurance company Aon, there were USD 380 billion in global losses from climate disasters in 2023, of which only a third were insured.

In addition to funding, she believes that it will be necessary to increase the capacity to engage the public to gain political and community support for measures to combat the climate crisis in a world affected by fake news and the power of so-called big tech. This, she says, requires a new way of communicating, linking climate action to broader benefits. The public will need to understand that climate protection will enhance peace and security (as resource scarcity threatens more conflicts over food and water), promote social justice (today the richest 1% in France emits as much as the poorest 66%) and generate economic opportunities (for example, leveraging Brazil’s natural resources for green industries, such as nickel for electric vehicle batteries). In this field, Brazil can lead the energy transition, as a provider of critical minerals and innovative solutions.

## FIGHTING GLOBAL WARMING REQUIRES A STANDING AMAZON

Former Environment Minister, member of the United Nations and curator of the Conference, Izabella Teixeira, emphasizes that high-level discussion initiatives at the event allow Brazil to become more involved in the period of preparation of the agenda for COP30, the UN climate change summit, which the country will host in 2025. This is a necessary action for Brazil to establish the necessary conditions to be one of the global leaders against climate change.

She states that “the world will not succeed in limiting global warming to 1.5°C above pre-industrial levels, as agreed in the 2015 Paris Agreement, without the Amazon standing.” In addition, the conference has this important role of seeking to anticipate this discussion and propose ways to contribute to protecting the Amazon. Moreover, this action involves an approach related to the sustainable development of the region, with an emphasis on new economies to align this planned growth with the social promotion of people and the necessary preservation of the environment. “This is what can be described as a fair transition from economic models to the development models the world is seeking,” she says.

The two editions of the conference, in 2023 and 2024, according to Izabella Teixeira, “highlight the Amazon and propose to discuss the future, the new choices for Brazilian society, the ones we are going to have and how we are going to impact the world for the better, how we can show solidarity. In addition, this involves solutions for Brazilians and, especially, solutions for Amazonians, that is, there is no way for Brazil to be a low-carbon country if the Amazon does not play a strategic role in this. And, therefore, we are connecting to the new moment in the country, the Amazon to Brazil and Brazil to the Amazon.”

**IZABELLA TEIXEIRA:**  
Former Environment Minister

## KEYNOTE SPEAKER PANEL

# JOHN KERRY

**STAGE 1 – Guamá River**  
November 7<sup>th</sup>, at 12 PM

### KEYNOTE SPEAKER

**John Kerry:** 68<sup>th</sup> Secretary of State-  
U.S.A.

### MODERATORS

**Shari Friedman:** Executive Director,  
Climate and Sustainability at Eurasia  
Group

**Joaquim Levy:** Director of Economic  
Strategy and Market Relations at Sa-  
fra Bank

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*Former United States Secretary of State, John Kerry, was optimistic when dealing with the climate emergency, mentioning technological innovations as a path to the energy transition and facing the crisis. Through these solutions, he believes the world will be carbon neutral by 2050.*

*In relation to Brazil, he stated that a country endowed with an asset as powerful as the Amazon Forest must see the bioeconomy as a key to sustainable development, although he is concerned about the reduction in the forests' ability to capture carbon.*

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Artista: Julia Goulart  
Técnica: Colagem

Optimism was the feeling that guided the speech of former United States Secretary of State and former senator, John Kerry, when dealing with the climate emergency. Despite the fact that, according to him, emissions continue to rise at a rate of 1% per year and the world has allocated around USD 1 trillion to the exploration of fossil fuels in the last year, there is another side developing technological solutions to accelerate the energy transition.

This is the case of China, currently the largest emitter of carbon dioxide in the world, according to data from 2022. At the same time that it emits three times more greenhouse gases than the United States, the eastern power is implementing more renewable energy sources than the rest of the world as a whole. And this is also the case in Germany, which already allocates 50% of its energy investments to the implementation of renewable sources.



Kerry has shown himself to be an enthusiast of technological solutions to curb global warming. For countries with economies based on the agricultural sector, he mentioned the example of a food, made from seaweed that, when mixed with cattle feed, reduces methane production by the herd by up to 90% – this supplement was developed by Symbrosia, a startup from Hawaii, in the USA. He believes it is human nature to solve challenges. “We will have many surprises with the technological solutions that will emerge”, he declared.

Via videoconference, Kerry addressed the audience asking how many there remembered that around 20 years ago the world was trying to solve the problem of acid rain caused by sulfur dioxide emitted by factories in the United States. “We found a market solution to drastically reduce

sulfur emissions, the cap-and-trade system, or compensation system. Today no one hears about acid rain anymore”, he observed. Through the cap-and-trade system, on the one hand there is a company that has reduced pollution in relation to a given target, generating credits; on the other, a company that exceeded the defined target, having to compensate by purchasing credits.

The time is now to quickly establish a global carbon market, which, in Kerry’s opinion, will be crucial to keeping the level of global warming close to 1.5° Celsius, as per the terms defined in the Paris Agreement in 2015. “If the international community manages to establish a global price for carbon, the initiative will accelerate the energy transition more than anything else that could be done”, he argued.



## BIOECONOMY AS A KEY

John Kerry also addressed Brazil. He stated that a country endowed with an asset as powerful as the Amazon Forest must see the bioeconomy as the key to sustainable development. Bioeconomy projects, according to him, must go hand in hand with reducing deforestation and engaging livestock farmers in a more intensive model of creation, which does not need to occupy so much land with pastures. Kerry believes that COP 30, to be held in Belém in 2025, should promote progress, drafting treaties for the development of the sector.

In the opinion of the former United States senator, biodiversity is, together with the bioeconomy, the other topic of the moment. He revealed that he was concerned about the production of deserts around the world, since forests began to absorb less carbon dioxide than expected – as revealed in a study by researcher at the National Institute for Amazonian Research, Júlio Tota. Another source of concern is the warming of the oceans. “If forests no longer absorb as much CO<sub>2</sub>, the oceans will warm more quickly and climate disasters will intensify,” he said.

Asked about the compatibility between the exploration of strategic minerals in the Amazon and the protection of the forest, the former Secretary of State recalled the case of the mining company Fortescue Metals, among the largest in Australia, which is quickly moving towards the neutrality of its emissions, with its fleet of large electric trucks used to transport minerals to ports.

The event mediator wanted to know Kerry’s opinion on what can be expected in terms of adaptation actions. Kerry responded that adaptation is already underway in many sectors – tourism, agriculture, the energy system, water supply – in many parts of the world. He also remembered the islands in the Pacific Ocean that are at risk of disappearing. “The ocean is moving and several species are also in the process of adapting, such as cod and white sharks, which appear in areas far from their former habitats.”

In a final message, Kerry stated that the world needs to unify to find solutions, especially the 22 nations responsible for 80% of emissions today. However, he declared himself an optimist and said he believed in overcoming this challenge as well.

“By 2050 we will be carbon neutral”, he assured, referring to the world. How? In an analogy with the Second World War, Kerry said that at that time there was no certainty that the allied countries would win. However, President Franklin Delano Roosevelt (1933–1945) empowered the base of society and they worked quickly on the production of B-52 planes, “a new technology that helped us achieve victory”, according to him.

Regarding the victory in the presidential elections of Republican Donald Trump, who declares himself a climate emergency denier, Kerry said he does not believe that one man, not even if he is president of the United States, will be able to derail the world in the fight against climate change.



## KEYNOTE SPEAKER PANEL

## NEW ECONOMIES

## BUILDING THE CARE ECONOMY

## STAGE 1 - Guamá River

November 8<sup>th</sup>, at 11 AM

## KEYNOTE SPEAKER

**Ellen Johnson Sirleaf:** First African woman to be elected President and winner of the Nobel Peace Prize

## MODERATOR

**Andréia Coutinho Louback:** Journalist, narrative strategist and executive director of the Brazilian Center for Climate Justice (CBJC)

## PANELISTS

**Ana Cunha:** Director of Government Relations and Social Responsibility at Kinross, Coordinator of ESG for Mining at the Brazilian Mining Institute (IBRAM)

**Neidinha Suruí (Ivaneide Bandeira Cardozo):** Kanindé Ethno-environmental Defense Association

**Marcela Bonfim:** Photographer and activist for the cause of black populations and traditional peoples

**Patricia Procópio:** Director of Planning, Innovation & ESG at Hexagon, CEO of Newverse and president of WIMBrasil

**Ursula Vidal:** Brazilian journalist, filmmaker and political activist, affiliated with União Brasil. She is the current Secretary of Culture of the State of Pará and President of the National Forum of Secretaries and Directors of Culture



*During her time in office, former Liberian president and Nobel Peace Prize laureate Ellen Johnson Sirleaf removed foreign companies that were illegally exploiting the mineral and timber resources of her country's forests. It implemented a governance model, ensuring the sustainable management of remaining resources. Given this experience, she recommended that Amazonian leaders always dialogue with youth, the age group from which future leaders will emerge. To women without the opportunity to compete, I told them to continue fighting in their communities. Another path – he pointed out during the closing of the Conference – is to improve knowledge to conquer spaces through excellence.*





Artist: Julia Goulart  
Technique: Collage

**B**elém is the gateway to the Amazon. From there you can feel the forest pulsating, almost like a reminder that we need to protect this ecosystem that is so vital to the planet.” With a tribute to the city that hosted the 2024 Amazon and New Economies International Conference, the former president of Liberia and first woman awarded the Nobel Peace Prize, Ellen Johnson Sirleaf, 86 years old, opened the last panel of the event, entitled *New Economies : Building the Care Economy*, made up entirely of women.

If Liberia still retains more than 4 million hectares of original tropical forests, much is due to the measures taken by Ellen Sirleaf during the period in which she was in power, from 2006 to 2018. “I am here not only as a former president of Liberia, but as someone who faced the challenge of containing the uncontrolled extraction of mineral and timber resources and faced the dangers that this represented”, she said, attesting his knowledge of the matter to address the issue .



Madame President – a title she likes to hear in front of her name – spoke about the rampant extractivism that has decimated much of the native vegetation in Liberia and other African countries, such as Congo. She attributed the degradation of African forests mainly to logging industries and unsustainable agricultural practices. A situation very similar to the existence of illegal logging companies and miners in the Amazon, with the aggravating factor that a large part of the exploitative industries that operated there were foreign.

According to her, when illegality occupies a territory, natural resources, instead of producing well-being for local communities, finance conflicts. Once the land is exhausted, all that remains is poverty and an aura of crime and violence.

As president of Liberia, Ellen Sirleaf developed a bold governance model to con-

serve the country's remaining forests and ensure that the benefits derived from nature were shared with local communities.

However, before reaping the results of this initiative, it had to face, among the many local conflicts, international sanctions imposed on countries that adopted unsustainable practices in the extraction of natural resources. She explained that the sanctions period was a difficult one, but it helped to legalize extractivism based on more sustainable practices.

“As the forestry sector in Africa has always been closely linked to predatory exploitation, we had to build a relationship of trust with the international community, ensuring that the revenues benefited the right people,” she said. The former president also stated that these governance practices now extend to several countries, including Gabon, Kenya, Tanzania and Namibia.



## SOLUÇÕES E RECOMENDAÇÕES

Ellen Sirleaf believes that the best tool currently available to combat deforestation is carbon credits. Forest protection generates credits that can be sold to countries that have failed to protect their forests, or do not have many ways to reduce carbon emissions. For her, the instrument represents a win-win: “Those who protect the forest gain economic resources and developing countries that need to achieve their climate objectives gain,” she stated, noting that it is necessary to be aware of a possible movement of speculation in forested lands.

Another recommendation from the African leader is to listen to youth, the age group from which future leaders will emerge. They need to keep in mind that exporting natural resources in the form of raw materials – that is, without processing – generates much less wealth for the population than it could.

A region like the Amazon, rich in strategic minerals, needs industries that add value to raw ores. In his opinion, this activity can boost industrialization and the generation of jobs and income. “We must invest in adding value to the minerals we extract. This means building the infrastructure and skills needed to refine and process minerals locally, so that we are not simply exporting raw resources, but creating finished products that can command higher prices.”

The moment is right because the energy transition depends on minerals such as lithium, copper, rare earths, among others. “Brazil and Africa can be leaders in the extraction of these ores. However, the way we promote this production will determine whether we are creating a sustainable future or not,” she stated.

## ABOUT RACISM AND PREJUDICE

Asked about how to achieve sustainability if black women still do not participate in decisions, Sirleaf replied that segregated societies, such as black and indigenous societies, are part of all countries. “But we always manage to find points that unite us. There are leaders even among segregated communities,” he said.

She proposed that women recognize that they have all the qualities of men. “We have different methods for resolving conflicts. We don’t have power, but we have influence.” Faced with an unfair world, in which women do not have the opportunities to compete, she stated that the alternative is to continue fighting in their communities. Another path is to improve knowledge, so that women can increasingly act and conquer spaces through excellence.

When presented with data on the concentration of wealth and global power in the hands of men, she responded: “Things are changing and young people are demanding equality. This will not happen overnight, but we will not give up. We do not want charity; we just want the right to compete. Billionaires hold the dollars, but they will see that dollars don’t solve all the world’s problems and one day they will recognize the need for equality.”



## OPENING PANEL

# THE NEW INVESTMENT VISION

**Stage 1 – Guamá River**  
November 6<sup>th</sup>, at 4:30 PM

### MODERATOR

**Denise Rothenburg de Sá**

### PANELISTS

**Ediney Maia Drummond:** CEO of Lundin Mining

**Isaac Sidney:** President of the Brazilian Federation of Banks (FEBRABAN)

**Joaquim Levy:** Director of Economic Strategy and Market Relations at Safra Bank

**José Ricardo Sasseron:** Vice President of Business, Government and Corporate Sustainability at Banco do Brasil

**Oskar Metsavah:** Founder of Osklen and Instituto-E

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*The panel highlighted the role of the financial system in the face of the demands of the climate emergency, which instruments and regulatory frameworks already exist, and how Brazil can become a protagonist in replicating experiences in developing countries. The scenario includes the challenge of producing critical minerals, essential for the energy transition to low carbon, in addition to the importance of credit as a lever for sustainable development. Communication strategies abroad are necessary for the country to benefit from the uniqueness of its biodiversity and traditional culture.*

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Artist: Raket Caminha  
Technique: Digital photomontage

**T**he climate emergency, with economic challenges associated not only with carbon mitigation but also with material damage and loss of life due to catastrophes, highlights the importance of public-private partnership and the role of banks and the capital market as fundamental elements to advance this agenda.

The topic was highlighted in the opening panel, which addressed Brazil's opportunities as a protagonist in sustainable finance, alongside sectors such as

biofuels, clean energy, bioeconomy and food production. According to the Brazilian Federation of Banks (FEBRABAN), the sector is aware of the co-responsibility of allocating financial resources to sustainable activities.

This is reflected in the creation of a pioneering taxonomy for allocating resources to the socio-environmental and climate areas. Credit is one of the great levers for sustainable development: of the total transferred to Brazilian companies, 21.1%



were allocated to activities for a green economy, in 2023.

Brazil has the opportunity to become zero carbon in 2040, depending on the financial system. But there are many issues to be resolved, in addition to recent advances in the configuration of the carbon credit market for the protection of forests.

With the new regulations from the Securities and Exchange Commission (CVM), the tendency is to increase the flow of financial resources towards the low carbon trajectory. In international cooperation, the Brazilian initiative is a reference for developing countries to replicate solutions along this path.

Development banks are fundamental in the issue of adaptation and Brazil needs to invest heavily in this axis, more related to public structures. Banco do Brasil follows the guidance of working with sustainable investments, with credit totaling BRL 360 billion, a third of the total portfolio, in 2024.

The value includes resources via the Safra Plan for operations such as direct planting and recovery of degraded areas. The bank's promotion of carbon credit operations is expected to double from BRL 15 billion to BRL 30 billion by 2030.

## ADDING VALUE

The Brazilian economy is based on the export of commodities, following a horizontal model. The country now needs to expand its economy vertically, with sustainable products and services that add value with the strength of the culture and creativity of the forest people.

The opportunity comes from the global admiration of Brazil for its biodiversity and ancestral knowledge. To achieve this, it would be necessary to create a State project to reinforce brand communication (storytelling).

Windows are also opening in mining, with demand for critical materials for the energy transition (nickel, copper, aluminum and iron), important in reducing dependence on fossil fuels. The Amazon has great potential for this exploration, and the activity can expand without causing irreversible impacts on the Amazon biome.

Mining is a long-term investment – between research, extraction and financial return, it takes 10 to 12 years of investment. In this moment of urgency, Brazil cannot lose the timing to be part of this transition.



# 11/7 - PANELS

## STAGE 1 GUAMÁ RIVER





## PANEL

# THE NATIONAL AND INTERNATIONAL VISION OF STRATEGIC MINERALS IN THE DECARBONIZATION OF THE GLOBAL ECONOMY

**Stage 1 – Guamá River**November 7<sup>th</sup>, at 9 AM**MODERATOR**

**Rafaela Guedes:** Senior Fellow at the Brazilian Center for International Relations (CEBRI)

**PANELISTS**

**Maria Jose Gazzi Salum:** Chief Strategy Officer (CSO) at Sigma Lithium

**David Zylbersztajn:** Professor at PUC-Rio

**Gustavo Naciff de Andrade:** Deputy Superintendent of the Energy Research Company (EPE)

**Silvia Cristina Alves França:** CEO at the Center for Mineral Technology (CETEM)

**Monica Cesar:** General Manager of Corporate Affairs at Vale Base Metals

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*The essential role of strategic minerals, such as lithium, nickel, copper and cobalt, in the transition to a low-carbon economy was discussed. The panel addressed the growing demand for these minerals and the challenges faced in ensuring a stable supply, considering geopolitical, infrastructure and sustainability issues. Brazil's potential as a supplier of strategic minerals and the opportunities that arise for the country in the context of the global energy transition were highlights.*

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Artist: Jean Petra  
Technique: 3D Modelling

**E**xperts began the debate by emphasizing that the energy transition to clean energy sources is driving global demand for strategic minerals. Minerals such as lithium, nickel, copper, cobalt and graphite are essential for the manufacture of batteries for electric vehicles, solar panels and other devices that play a central role in the quest for decarbonization.

For the panelists, this growing demand is reshaping geopolitics and the global minerals market, with new players in the

business, in addition to countries and companies seeking to guarantee stable sources to meet this growing need.

Brazil presents itself as one of the countries with the greatest potential to become a protagonist in the supply of some of these strategic minerals. With vast reserves of lithium and other essential minerals, experts pointed out that the country has a favorable geopolitical position, but faces challenges related to infrastructure and sustainability in mining.



These factors generated doubts among some guests about possible Brazilian leadership in the global sector. The lack of investment in modernizing infrastructure and the need for efficient public policies for the exploitation of these resources – following environmental and social criteria – were considered crucial points for Brazil to take advantage of global market opportunities.

Deepening the debate on the transformation of the geopolitics of the minerals market, experts pointed to the emergence of a new group of countries, including Brazil, which hold large reserves of minerals essential for this new global moment

and are emerging as important players worldwide. For experts, this new group will have the same importance as the countries that make up the Organization of Petroleum Exporting Countries (OPEC).

Another topic addressed was dependence on countries like China, which dominate mineral processing. For experts, this creates both opportunities and risks for producing countries, such as Brazil. It is necessary to diversify supply sources and expand commercial partnerships with other emerging countries that are emerging in the market, in order to guarantee security of supply and minimize geopolitical risks.

## SUSTAINABILITY AND ENVIRONMENTAL IMPACT

Experts have warned that mining these strategic minerals presents significant environmental challenges, especially in countries with fragile ecosystems, such as Brazil. Exploration must be accompanied by policies to mitigate environmental impacts and respect the rights of local communities, including indigenous peoples. Adopting responsible practices and promoting more sustainable technologies are key to ensuring the transition to a low-carbon economy is beneficial for everyone involved.

Among other challenges are issues related to the sector's infrastructure and financing, especially with regard to small and medium-sized companies. The absence of a clear articulation between public policies on mining, energy and the environment has made it difficult to create a more competitive and sustainable business environment.

Collaboration between governments, companies and international organizations will be essential for the success of the energy transition. International cooperation can facilitate the sharing of good practices, promote more sustainable investments and create joint solutions to global challenges such as the scarcity of mineral resources and the environmental impacts of mining.

In summary, the panel underlined that strategic minerals play a central role in global decarbonization, and that Brazil, with its vast mineral potential, has a unique opportunity to position itself as one of the leaders in the supply chain of these resources, transforming its economy. To achieve this, a joint effort between the public and private sector is necessary, with a focus on sustainability and technological innovation, to ensure that the exploration of these minerals benefits society in an equitable and responsible manner.





## PANEL

# THE MINING INDUSTRY IN BRAZIL

## FINANCIAL AND REGULATORY INSTRUMENTS

**Stage 1 – Guamá River**November 7<sup>th</sup>, at 10:30 AM**MODERATOR**

**Fernando Facury Scaff:** Full professor of Financial Law at the University of São Paulo, partner of Silveira, Athias, Soriano de Mello, Bentes, Lobato & Scaff – Advogados.

**PANELISTS**

**Anderson Baranov:** CEO of Norsk Hydro Brazil & Senior Vice President of External Relations for South America

**Fernando Facury Scaff:** Full professor of Financial Law at the University of São Paulo, partner of Silveira, Athias, Soriano de Mello, Bentes, Lobato & Scaff – Advogados

**Guilherme Oliveira:** Scientific Director of the Vale Institute of Technology (ITV);

**Mauro Henrique Moreira Sousa:** General Director of the National Mining Agency (ANM)

**Zé Silva:** Deputado Federal – Federal Deputy – Parliamentary Front for Sustainable Mining (FPMIN)



*Facing the global climate crisis and the need to tackle it, the panel provided reflections on good experiences in ongoing decarbonization processes in Brazil, mentioning the challenge of obtaining financing to expand initiatives.*

*It highlighted the importance of alliances between different industries, both public and private, in favor of responsible mining; and the urgency of overcoming historical challenges faced by the National Mining Agency (ANM), for better operating conditions.*





Artist: Jean Petra  
Technique: 3D Modeling

**B**razil has the opportunity to move forward to promote industrial mining that adheres to good ESG practices in its territory. The abundant supply of minerals is essential for the country to achieve its energy transition, as well as food security through fertilizer minerals.

However, this productive expansion demands a series of analyses and debates on the regulatory environment to which the Brazilian mineral sector is subject, com-

pared to the countries that compete with Brazil in the international mining market.

The panel highlighted the risk-reward binomial on which mining is based. For every thousand surveys, only one actually becomes a mine – a statistic that is not just Brazilian.

This is a significant level of risk. Therefore, the financing capacity in the initial phase requires an important set of instruments.



The establishment of new regulatory frameworks for mining, combined with financing and resource mobilization instruments for the activity, are important for the country's social and economic development, especially in the face of historical challenges facing the National Mining Agency (ANM). One of the main difficulties that ANM suffers is financing.

Seven percent of the collection from the Financial Compensation for Mineral Exploration (CFEM) must be allocated to the agency, but this amount is contingent, when it could be invested in transforming the agency from an analogue system to a digital one, improving service delivery.

The budget plan for this transformation is in the order of BRL 164 million, to be applied over three years and could result, among other advantages, in shortening the queue of processes under analysis.

The recent change in legislation, which allows mining titles – such as the application and research permit – to serve as collateral for financing, merited consideration.

The Federal Court of Accounts (TCU) was the target of criticism, being considered increasingly robust and even exceeding its competence. It was mentioned that the court even positions itself as a substitute for the regulatory process, on certain occasions, which would give a negative signal in terms of financing attractiveness.

The agency informed the Mines and Energy Commission, in 2023, that it was

going through a type of permanent strike, because only 30% of the positions were filled. In addition, of these 30% of staff, 35% are already in the process of retiring. The agency already has authorization to hold a public competition offering 220 positions and it will take place next year.

Another deficient aspect is the number of superintendencies in the country – there are currently nine, which is considered insufficient. Furthermore, there is not even a unit that takes care of socio-environmental issues within the agency.

Good news is the guarantee of resources of around BRL 1 billion to be invested, over the next 20 years, in ANM, as part of the agreement to pay BRL 132 billion in compensation by the companies involved in the tragedy that occurred in 2015, in the city of Mariana (MG). An arrangement that had the support of the Parliamentary Front on Mining (FPM).

Parliamentarians believe that the challenges of sustainable mining are similar to the challenges of agribusiness. Just like agribusiness, which has public financing policies, categorized according to the size of the investment, mining also needs a similar mechanism.

For them, Brazil needs to adopt a national policy on strategic critical minerals.

Furthermore, it is considered legitimate to question what the difference is for the enterprises that are in the ANM process queue; about what they will gain quickly, in tax benefits and other aspects.

## ONGOING DECARBONIZATION PROCESSES

With COP 30 approaching, to be held in Belém in 2025, large mining companies highlighted initiatives in this regard. At the beginning of 2024, Norsk Hydro Brazil began the migration from fuel oil to natural gas and guaranteed that, by the end of this year, all of its electric boilers will adopt the new energy matrix, ensuring a reduction in its CO emissions<sup>2</sup> and strengthening the industry's commitment to clean energy.

Hydro has sought, over time, to be a protagonist in the ESG agenda and has made a commitment to invest BRL 100 million in society over the next 10 years, having currently reached the BRL 40 million mark. The initiative has been carried out with its own financial resources, without passing on product prices. The company recognizes customers' demands for clean energy and a commitment from industries to the social impacts of production processes. It is a demonstration that the market will regulate itself, separating those who are and those who are not committed to the climate.

In this sense, the partnership between Hydro and Vale was also mentioned, which

provides for biodiversity research and development actions in the municipality of Paragominas (PA) and which should provide an increase in the scale of biodiversity protection in the Amazon.

Mining has been working with innovation and research. Hydro, for example, adopts the Tailing Dry Backfill technology, avoiding traditional dams, by extracting bauxite and returning the soil, in addition to promoting reforestation. The measure is seen as contributing to reducing the risk of possible impacts caused by the industry.



## ALLIANCE BETWEEN MINING AND SCIENCE

The Front reports having defined a series of projects in the National Congress, all based on pillars of science. A large group of researchers carried out studies and technical notes that support each of the projects presented, such as optimizing the use of CFEM.

The Vale Institute of Technology (ITV) emphasized the great demand for socio-environmental performance that falls on mining companies and on the various financial

mechanisms. COP 16 on Biodiversity, held in 2024 in Cali, Colombia, allowed us to reflect that good performance assessment can unlock financial mechanisms and reduce costs.

With science-based tools, companies can measure their performance more accurately, which allows greater oversight capacity by environmental agencies and society.



## PANEL

# THE NEW MINING IN A STRUCTURING AND DEVELOPMENT AGENDA IN THE AMAZON

**Stage 1 – Guamá River**November 7<sup>th</sup>, at 2 PM**MODERATOR**

**Bruno Patrini Menna Barreto Gomes:** , sociologist and founding partner of the consultancy Humana

**Neliton Marques da Silva:** Professor at the Faculty of Agricultural Sciences at the Federal University of Amazonas (UFAM)

**PANELISTS**

**Caio Magri:** CEO of Ethos Institute

**Eduardo Martins:** Former president of IBAMA and Director Member of the Associated Group for Sustainable Agriculture (GAAS)

**Marcia Soares:** Amazon and Partnerships Manager at Vale

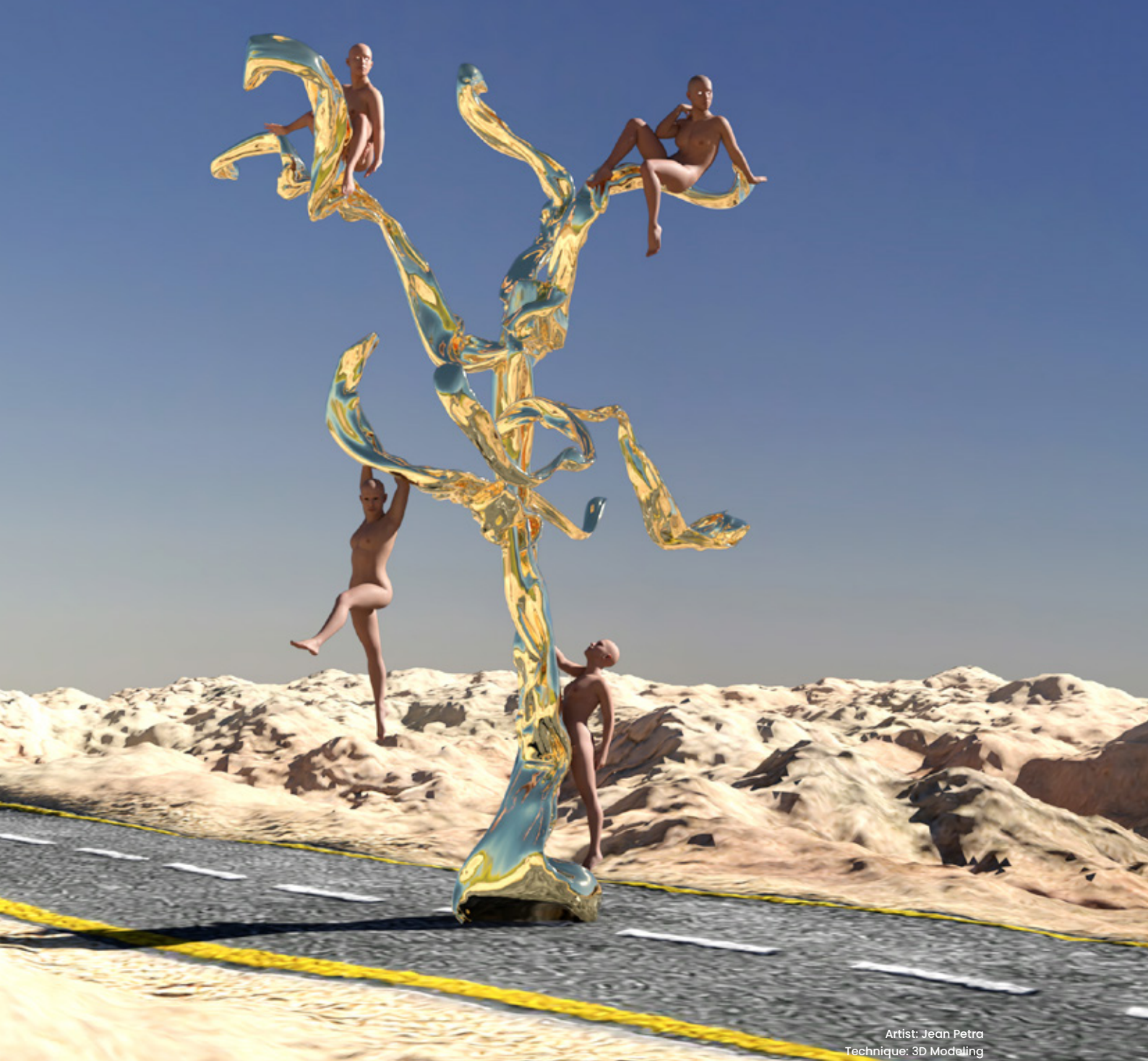
**Anderson Martins:** Industrial Director at Hydro – Paragominas

**Guido Germani:** CEO of MRN

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*Experts debated the fundamentals of the so-called “new mining”, a model that seeks to integrate sustainability and innovation into the industry’s practices, responding to growing social and environmental demands. It was highlighted that mining, responsible for around 15% of GDP in the North region and 30% in Pará, needs to transcend its economic function, acting to reduce territorial inequalities and strengthen local economies. Among the challenges highlighted are the adoption of circular production processes, the restoration of degraded areas, respect for traditional peoples and strengthening dialogue with communities. Furthermore, it was highlighted that mining companies must align ESG strategies with local needs and collaborate with governments and civil society to promote sustainable development and reduce social and environmental impacts in the Amazon.*

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Artist: Jean Petra  
Technique: 3D Modeling

**T**he invited experts initially sought to define what new mining is, a term used to refer to the sector's new operating strategies in the face of the intensification of environmental, social and governance (ESG) requirements.

In view of this, there was a consensus that the mining industry, responsible for producing around 15% of all Gross Domestic Product in the North region and 30% in Pará, needs to go beyond its field of activity. In other words, it must integrate sustainability

into its corporate and institutional practices and strategies, seeking new ways of relating to impacted territories and strengthening the initiatives of local agents that are within the context of new economies.

The guests highlighted that the importance of the industry for the production of wealth in the Amazon generates profound consequences and responsibilities for the region's economy, society and environment. Therefore, acting from this basic vision would be the new mining.





The new mining is one that generates less environmental impact, is more efficient, with enormous opportunity to contribute to a structuring agenda for the Amazon (various configurations of the region, ranging from the most conserved areas to urban areas).

The new mining uses advanced technologies, invests in renewable energy in its processes and seeks net zero carbon emissions.

The guests highlighted that companies have already been operating in this way for several years in the Amazon, but that, in the new mining, there must be an intensification of all these actions, with the adoption of increasingly intense circular production processes, restoration of degraded areas, reduction of social impacts, respect and continuous dialogue with traditional peoples and communities.

When looking for the main challenge for this new mining, the panelists chose the fight against inequality. The map developed by

the Sustainable Cities program was shown, which analyzes, based on public data, the performance of each Brazilian municipality in relation to meeting the Sustainable Development Goals (SDGs). Municipalities in the North region, many with strong mining activity, are among the greatest territorial inequalities in the country.

For the guests, this is the magnitude of the challenge to build a structuring agenda through the new economy – and the change needs to be radical.

Then, the debate focused on how mining should “overflow prosperity” in the places where it operates in the Amazon, as used in the expression.

The measures taken by companies to build this new mining must not be restricted to mitigating risks and damages, but must be effective in reducing inequalities and promoting sustainable development in the region, exercising their corporate responsibilities within an agenda of socio-environmental integrity.

## COLLECTIVE EFFORT

For the invited panelists, building a structuring agenda for the Amazon in the new mining scenario requires a collective effort that goes beyond the individual capabilities of companies, civil society or governments. This agenda must be based on continuous dialogue, transparency and broad participation, taking into account the specificities and expectations of all interested parties.

An essential first step is the creation of permanent and institutionalized spaces for dialogue. These spaces should be used to exchange information, diagnoses and data, allowing different social groups, such as local communities and quilombolas, to have an active voice in formulating solutions. This collective approach is necessary to align different perceptions about the impact of mining and build inclusive strategies.

Public management plays a central role in this process, and mining companies can take a proactive role in strengthening this management. This includes supporting the training of public managers, promoting social control mechanisms and creating structures that increase the transparency of public policies and business operations.

Another priority is the integration of ESG strategies with the demands of directly impacted communities. Instead of focusing solely on risk mitigation, these strategies must be expanded to include local expectations and needs, promoting lasting benefits for the region.

Economic diversification and encouraging sustainable production models, such as the bioeconomy, are essential paths according to the experts on the panel. Investments in agroforestry, reforestation and sustainable businesses are examples of initiatives that conserve the environment and also generate income and jobs. The panelists warned that this model must be planned collaboratively between companies, governments and communities, ensuring that resources from mining are applied with a view to the economic and social longevity of the region.

The involvement of the Third Sector and academia is strategic in this context. These institutions offer expertise and technological innovation, expanding the impact of mining actions in improving socioeconomic indicators. Furthermore, the Third Sector can contribute significantly to the mediation of dialogues and the capillarity of projects.

Finally, the commitment to global goals, such as the SDGs of the 2030 Agenda, must guide actions. These international guidelines provide a solid foundation for building policies that promote prosperity and equity.





## PANEL

# THE CONFLICT BETWEEN MINING AND ILLEGAL GOLD MINING IN THE AMAZON

**Stage 1 – Guamá River**  
November 7<sup>th</sup>, at 3:30 PM

**MODERATOR**

**Giorgio Francesco Cesare de Tomi:** Head of the Department of Mining and Petroleum Engineering at the Polytechnic School of the University of São Paulo and director of the Research Center for Responsible Small Mining at the University of São Paulo (NAP. Mineração - USP)

**Patricia Marins:** Founding partner of Oficina Consultoria

**Mauro Sousa:** General Director of the National Mining Agency (ANM)

**PANELISTS**

**Larissa Rodrigues:** Research Director at Escolhas Institute

**Marcos Lewin:** Sustainability Director at Lundin Mining - Brazil

**Rodrigo Goretti Piedade:** Commander of Belém Air Base



*The panel highlighted some of the main challenges in promoting the migration from illegal gold mining to legal mining, through joint work between different sectors of society, economic stimuli, new regulations and command and control actions.*

*He also warned of the negative impacts of illegal gold mining on the country's reputation and the need to review the lexicon regarding the topic, in order to contribute to this process of transformation.*





Artist: Jean Petra  
Technique: 3D Modeling

**T**he panelists sought to differentiate illegal gold mining from industrial mining, which must follow the good practices of the ESG agenda (formed by environmental, social and governance criteria). Illegal gold mining is commonly linked to the invasion of Indigenous Lands, destruction of Conservation Units, and contamination of rivers and people by mercury. Furthermore, illegal gold mining relies on unfair competition. All of this brings negative impacts of various natures to the country, including reputational ones.

An efficient way to combat illegal gold mining, as explained in the panel, is to increase the costs and risk of illegal activity, so that it is no longer attractive. There are several measures that must be taken together, including the repression of crime in addition to legal measures – such as the end of the presumption of good faith, suspended by the Federal Supreme Court (STF) in April 2023. Before the measure, the legality of gold acquired based on information provided by sellers was assumed, which served as a loophole for



the negotiation of metals extracted from illegal gold mining.

Historically, illegal gold mining was treated as a small, rudimentary, artisanal activity. The expression *garimpeiro* ('illegal gold miner' in Portuguese) originates from the practice carried out on mountain tops, called *grimpas*, where the "*grimpeiro*" made the gold collection and then came to be called *garimpeiro*. But this is no longer the reality we have today, in which illegality in gold mining causes significant impacts on the environment, on indigenous peoples and traditional populations, and on the reputation of mining activity, which is supported by legal and labor bases, generating foreign exchange for the country.

In this sense, it is necessary to organize the sector in such a way that it reflects the current situation, which requires the strengthening of the National Mining Agency (ANM). The ANM Artisanal Small-Scale Mining Permit Resolution (PLG, acronym in Portuguese), mentioned in the panel as a proposal to combat illegal gold mining, establishes, among other rules, standards for the execution of mining; mining plan; partners linked to cooperatives; georeferencing of mining fronts; greater clarity of obligations, responsibilities and penalties; definition of the maximum number of applications per National Register of Legal Entities; establishment of maximum polygon area; use of sterile waste; and implementation of a mine closure plan.

Concrete and challenging situations were mentioned when there is an entire community rooted in illegal gold mining, for example. It is not uncommon for an illegal gold miner to narrate the advantage of earning BRL 15,000 in the activity, a more attractive salary than that offered by established companies, local businesses, bioeconomy activities and family farming, which collect taxes and follow labor laws.

This scenario reinforces the importance of combating illegal gold mining via command and control, because the generation of formal jobs will not be competitive enough to attract the entire workforce. Still, the partial migration to legal mining should be considered an advance.

To this end, environmental licensing and the bodies responsible for these processes must be strengthened, such as the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and the state environmental secretariats, the SEMAs. Although the rules for licensing are considered good and clear, strengthening the bodies will be important to promote licensing with quality and legitimacy, which is reflected in mining.

The important contribution of the Armed Forces was mentioned, as one of the arms of the State in this confrontation. However, even working in partnership with inspection bodies, there are a series of limitations, as it is not the typical role of the Army, Navy and Air Force to perform this function. The Amazon scenario is seen as extremely challenging: it requires a great logistical effort and large financial resources. From the perspective of the Armed Forces, these two aspects need to be ensured, as it is not considered possible to combat illegal gold mining just by contribution of resources to the ANM, for example.

The panel also defended the Gold Traceability Bill, highlighted the importance of recovering areas degraded by mining and also issued a warning: every type of illegal activity attracts other illegal activities. In irregular mineral extraction, where crime has paid off, criminal organizations tend to enter the field and promote violence. This is yet another reason for the fight against illegal gold mining to consider the complexity of the scenario.

## JOINT EFFORT OF PLAYERS

The joint work between different social sectors to combat illegal gold mining gained prominence in the presentation among the panelists. And, among the sectors, there is a decisive participation of academia, the State and industry. System S was presented, among the panelists, as a potential ally to make legal mining more attractive, contributing to migration. SESI, SEBRAE and SENAI have the capacity to help those who come into legal compliance, from capacity building to effective technical support, considering human rights and health requirements.

Another key player in this process of transitioning from illegality to legality are the consumer markets, that is, the countries that buy Brazilian gold. It was mentioned in the panel that Brazil took a valuable step with the approval of the electronic invoice for gold, but it is also up to international buyers to adopt measures to acquire products of legal origin, in order to weaken those who work illegally.

## REPUTATION AT STAKE AND A NEW LEXICON

Given the negative impact of illegal gold mining on the country's reputation, the panelists considered it crucial to treat mining with the correct nomenclature, clearly distinguishing it from illegal gold mining. The climate future involves mining and the supply of critical minerals, but there is a mistaken lexicon in circulation about the activity, the panel argued. Much of this conflict occurs due to the way mining and illegal gold mining are treated – the activities are treated as equivalent.

When research on the mineral sector is analyzed, misperceptions are noted. By way of illustration, it is worth noting the common

circulation of images of illegal gold mining in the press associated with routine legal mining activities, which is undesirable for the mineral sector, which generates foreign exchange for the country.

A specific case was remembered – that of Bill no. 191/2020, dealing with legal standards for mining in Indigenous Land. It is believed that there was the dissemination of inaccurate information attributed to the mineral sector, making the need to characterize what these activities are even more pronounced.

In addition to this specific case, it was considered that there is an older historical path that led to the construction of a mistaken imaginary, which requires effort to distinguish what is licit from what is not licit. This flow gains maximum power with the advent of social networks

Therefore, IBRAM launched the advertising campaign: “What is mineral?” Answering this question, in the public space, is a way of helping society separate the wheat from the chaff, in order to build this desirable reputation for mining.

The panel presented an example of a word that generates noise: “exploration”. Technically, the expression is correct, but it is usually associated with something pejorative, such as sexual exploitation, labor exploitation, etc. Therefore, there is a need to build a new lexicon for the mineral sector, combined with collective work to reframe words that need to be replaced to ensure engagement. It is a work of literacy in the mineral sector, in short. Although the construction of this new lexicon needs to take place on a daily basis, its results will be achieved in the long term.

Other elements were also addressed, such as the three bases on which reputation is based: “What am I?”, “What do I do?” and “How do I communicate?” These three bases need to be aligned so that the good image of mining is permanent and authentic.



## PANEL

# NEW LEVELS OF TECHNOLOGY AND INNOVATION IN MINING AND ACCIDENT PREVENTION

**Stage 1 – Guamá River**  
November 7<sup>th</sup>, at 5 PM

**MODERATOR**

**Maria José Salum:** CSO at Sigma Lithium

**Aline Nunes:** Mining Affairs Manager at the Brazilian Mining Institute (IBRAM)

**Leandro Teixeira:** Vale's Innovation Director

**PANELISTS**

**Francisco Valdir Silveira:** Director of Geology and Mineral Resources at the Geological Survey of Brazil (SGB)

**Gonzalo Enriquez:** Director of the Technological Innovation Agency of the Federal University of Pará (UFPA)

**Adriano Reis Lucheta:** Director of the SENAI Institute for Innovation in Mineral Technologies

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The panel approached mining from the point of view of creating so-called resilient territories. The search for these territories requires advancement in the legal framework and high investment in innovation and technology, resulting not only in the reduction and use of waste, but in increasing the effectiveness of accident prevention strategies. From this point on, the expression "sustainable mining" was debated, which can be defined as an activity that operates with a holistic vision in all its stages and its relationships with biodiversity, linking geology, mining and processing.

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Artist: Jean Petra  
Technique: 3D Modeling

**W**hen dealing with resilient cities, experts highlighted Sustainable Development Goal (SDG) 11, which specifically deals with sustainable cities and communities, addressing elements of security and resilience. The objective, which is part of the United Nations Agenda 21, adds to Brazilian legislation that has matured the topic in recent years, including the creation of Law No. 12,608 of 2012, which established the National Civil Protection and Defense Policy.

During the panel, several actions taken by the mineral and academic sector in recent years were identified, in the search for more resilient mining territories, focused mainly on strategies for preparation, prevention, mitigation and response to catastrophes and accidents.

Experts agree that these advances are very important for the evolution of the relationship between public authorities, communities and companies. Despite the advances mentioned, they agreed that the country needs to advance even further and that the new



mining – classified by some debaters as “sustainable mining” – needs to internalize a holistic vision in all stages of its processes.

This vision includes innovations that can reduce the risk of accidents to unprecedented levels, but must also look at the importance of human beings and their relationship with biodiversity, as protagonists of the entire process.

## TECHNOLOGY

The invited experts highlighted the technological advances in mining in recent years. The activity today helps to develop and use tools that range from remote sensors to high-resolution, 3D radar images. The use of Artificial Intelligence (AI) tools has become essential for the geological service in the Amazon, enabling the creation of unprecedented feats, such as the creation of the uranium map of Brazil, which is already being used by the industry, and recent advances in geophysical map of the gray lineament of Pará – traditional cartographic representation known in geological studies, which for the first time was created and in-depth with the use of AI.

Regarding the prevention of risks and accidents, the experts present on the panel mainly cited georeferenced technologies, which today play an extremely important role in managing and mapping territories, including risks.

Also mentioned were innovations in mining processing that reduce water consumption by 90% and the implementation of a truckless system, which replaces trucks with mobile equipment connected by belts, reducing carbon emissions by 40%. In the Carajás mine, it was highlighted that its energy matrix was converted to zero emission sources, with emphasis on the *Sol do Cerrado* solar plant, with an investment from Vale in the order of BRL 3 billion. The plant, which occupies an area equivalent

to 1,300 football fields, is made up of 17 sub-parks of photovoltaic plants interconnected to the electrical grid, capable of supplying a city of 800,000 inhabitants, with an installed power of 766 megawatts-peak.

In addition, investments in biofuels, such as ethanol and the use of AI to optimize operational efficiency, reducing consumption and emissions in trucks and plants were mentioned. In maritime transport, the mining company mentioned that it has started using rotating sails on some of its ships. These sails harness wind energy, saving up to 6% on emissions.

Another point under debate was the importance of professionalization to meet new market demands. The aforementioned initiatives highlighted the creation of a broad innovation structure in Brazil, with 28 SENAI Innovation institutes and around BRL 2.5 billion invested in Research & Development, involving more than 1,500 highly qualified researchers. These efforts include research and training in technologies to process lower quality ores, anticipating a time when their extraction will become more complex. Projects linked to education in Belém have focused on clean technologies, circular economy and waste reduction, aiming for mining with minimal environmental impact.

There was a consensus on the importance of data integration between different sectors, considered crucial for building more resilient cities. According to the panelists, to plan effective actions, it is essential that public agents, companies and society act together, avoiding isolated efforts.

Technology is considered a valuable ally in the integration of databases, allowing a broader and more coordinated view of the territory, especially in areas affected by deforestation, such as the Amazon. The integration of this information is an essential step towards gaining efficiency in management and creating more sustainable solutions.

# 11/7 - PANELS

## STAGE 2 AMAZONAS RIVER





PANEL

# ENVIRONMENTAL CRIME IN PROTECTED AND INDIGENOUS TERRITORIES

Stage 2 – Amazonas River  
November 7<sup>th</sup>, at 9 AM

**MODERATOR:**

**Beatriz Mattos:** Research coordinator at Cipó Platform

**Ricardo Augusto Ferreira Costa Neves:**

Army General and Military Commander of the Amazon

**PANELISTS**

**Cesar Luiz da Silva Guimarães:** Environmental Analyst and Superintendent of the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA) in Rondônia

**Rosa Lemos de Sá:** General Secretary at the Brazilian Biodiversity Fund (FUNBIO)

**Júlio Barbosa de Aquino:** Extractivist leader and president of the National Council of Extractivist Populations (CNS)

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*Safeguarding protection and indigenous territories from crimes, while guaranteeing the rights of traditional populations and compliance with climate goals: this was the main topic under debate in the panel. In order to meet these objectives, it is urgent to tackle the different types of crimes in these areas, through coordinated actions between public bodies from different spheres, security and the Armed Forces – together with public policies that guarantee support and the rights of local populations.*

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Artist: Bonikta  
Technique: Digital illustration

BONIKTA

Organized crime has expanded in environmental protection areas in the Amazon. In addition to historical criminal activities such as land grabbing, illegal logging, fires, deforestation and illegal gold mining, drug trafficking has been invading protected territories, causing serious damage to populations. Traffickers take advantage of the fragility of local populations to attract new members and prevent complaints.

After criminal factions established themselves in the Amazon with the practice of

transnational crimes, a “crime ecosystem” has been strengthened in the region. These criminal organizations established on the borders maintain links with other groups in neighboring countries, which are among the largest cocaine producers in the world.

According to the panelists, this is due to the absence of the Brazilian State in inspection and repression measures, and the lack of more integrated coordination of security bodies in the Amazon – which adds to the



social vulnerability of local people. Approximately 30 million people live in the region and need essential public services.

The Armed Forces' diagnosis highlights major challenges in operating in the Amazon and combating crime. The first is the lack of a national policy for the Amazon, which takes into account the strategic interests of the Brazilian State and local populations.

The second challenge is the continental dimensions that create logistical difficulties for federal agencies, resulting in insufficient actions and initiatives to provide services to the population of the Amazon.

The lack of a legal framework for sustainable exploration of the mineral issue is another problem that needs to be overcome. There is little integration of science, innovation and information, as well as the absence of land regularization, which puts pressure on protected areas and Indigenous Lands.

Coordinated actions by different security agencies are, therefore, essential to combat crime in the Amazon. This requires integration and collaboration between different bodies including the Armed Forces, state security bodies and federal, state and municipal environmental protection bodies.

Even so, some results already obtained are significant: the seizure of 4 million tons of cocaine paste, one ton of marijuana, 200 kg of mercury, more than 110 thousand tons of cassiterite and the destruction of more than 200 illegal gold mining dredgers until October 2024.

The Armed Forces carried out the largest aerial effort in the history of the Brazilian Air Force (FAB) and the largest military cargo transport operation in Latin America, in 2023, in support of the Yanomami indigenous people, which resulted in more than

BRL 220 million in losses to illegal gold mining and a 93% reduction in the opening of new mines, compared to 2022.

More than 360 illegal gold mining camps were also deactivated and more than 110 thousand liters of fuel were destroyed. In 2024, according to data up to September, there was no warning of new mining in Yanomami land.

## ILLEGAL GOLD MINING

Another major problem faced by the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and the Armed Forces is illegal gold mining, a highly profitable activity. According to IBAMA, a cook at the mine earns BRL 15,000 per month, while a miner has a salary of BRL 20,000. A fully equipped dredger with a raft costs between BRL 3 million and BRL 5 million. After being expelled from an area, illegal miners tend to migrate to another location, thus leading to predatory activity.

To curb the activity, in addition to command and control, alternative income and employment must be created. Support for communities is essential, and can come from funds earmarked for preservation actions, such as the Brazilian Biodiversity Fund (FUNBIO). Fund resources allow management projects to be carried out, plans to improve the quality of life in indigenous territories, sustainable production and income generation, which helps maintain the integrity of the territories and prevents invasions.

Communities living around national parks also need support to avoid pressure on protected areas. When communities understand the importance of areas and benefit directly from productive activities – such as ecological tourism – they contribute to the conservation of these areas.

## FOCUS ON LOCAL POPULATIONS

In order to tackle crimes, the Amazon needs a development policy that listens to the demands of local populations, as these people are the ones who most protect the forest. One of the possibilities is to make payments to these communities for the environmental services they provide. The measure would help prevent cooptation by organized crime.

Income generation projects are essential for local populations to remain in these spaces and not migrate to the cities. Another possibility is the creation of a National Bioeconomy Plan to design production chains, taking into account the potential of the territories.

In this sense, the support of funds and resources, such as FUNBIO, for traditional

communities living in the Amazon, are essential. As well as the implementation of public policies such as sanitation, valuing communities, and promotion of the local production chain, with the production and sale of regional fruits such as Brazil nut, cocoa, and andiroba, at fair market prices.

The environmental and climate discussion during COP 30 will be an opportunity for everyone involved, especially traditional peoples, to be heard and have support from public managers, civil entities and the scientific community. Investments in local populations are small compared to the benefits that these communities generate for the world.





## PANEL

# CRIME ECONOMY

Stage 2 – Amazonas River  
November 7<sup>th</sup>, at 10:30 AM

### MODERATOR

**Melina Risso:** Research Director at the Igarapé Institute Research Director at the Igarapé Institute

### PANELISTS

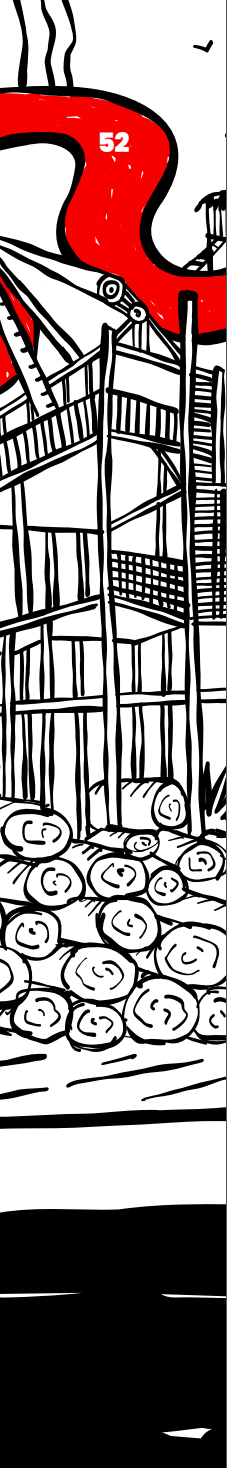
**Renato Sérgio de Lima:** CEO of the Brazilian Public Security Forum and professor at the Department of Public Management at the São Paulo School of Business Administration at Fundação Getulio Vargas (FGV EAESP)

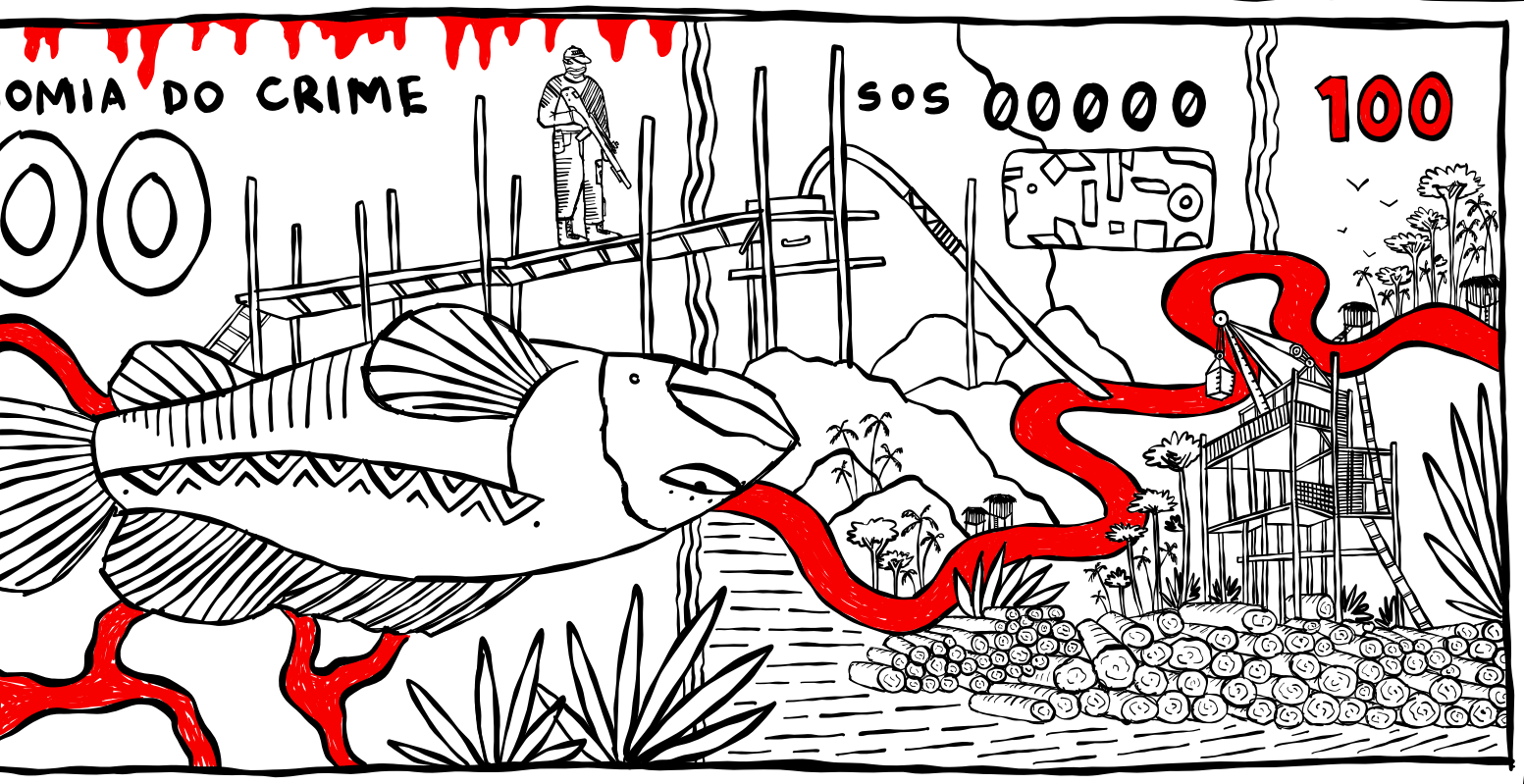
**Sérgio Leitão:** Executive Director of Escolhas Institute

**Tassio Franchi:** Researcher and professor at the Meira Mattos Institute – Army Command and General Staff College (ECEME)

*The panel addressed the economy of crime in the Amazon, highlighting the role of criminal factions in transnational trafficking networks and illegal exploitation of resources.*

*Gold mining, facilitated by legal loopholes, and territorial control are drivers of the illicit economy. To face these challenges, traceability, bioeconomy and land governance are suggested. COP 30 is seen as a chance to align local solutions with the global agenda.*





Artist: Bonikta  
Technique: Digital illustration

**T**he Amazon – a region that connects local and transnational economies – today has a complex network of illicit activities, generating profound impacts on the economy, governance and the daily lives of its populations. There are strong connections between Brazilian factions, such as the First Capital Command (PCC) and the Red Command (CV), with international armed groups, including the Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN). Traditionally centered in Colombia, these groups have

expanded their operations to the Amazon region, taking control of routes and trafficking of illegal resources, such as gold and drugs.

Collaboration with Brazilian factions and other international criminal organizations facilitates the transport of illicit goods, creating a network that supports the criminal economy. This structure provides financial resources and logistical infrastructure, allowing the maintenance of illegal activities. Furthermore, there is evidence of links with



the Italian mafia, especially the 'Ndrangheta, further expanding the global dimension of this criminal system.

## INFILTRATION INTO THE FORMAL ECONOMY

The activities of these organizations are not restricted to illegal practices, but are also directly linked to the formal economy, employing thousands of people in legal activities. According to the study *Cartographies of Violence in the Amazon*, by the Brazilian Public Security Forum, organized crime is present in 178 Amazonian municipalities. The hypothesis that organized crime has become the main employer in some areas of the Amazon is alarming, as they act as a type of “holding company” that goes beyond drug trafficking and illegal gold mining.

In many cases, the criminal economy is the only option for local communities or a more financially profitable option. Illegal miners, machine operators and even cooks in the camps receive salaries far above what they could achieve in formal jobs, perpetuating dependence on these activities. With attractive remuneration – such as a monthly salary of BRL 15,000 for cooks in mining operations – the illegal economy offers economic support where the formal market is scarce.

This scenario perpetuates a cycle of vulnerability and dependence, directly affecting economic and environmental sustainability. Poverty in the Amazon makes the local population vulnerable, who often become involved in illegal activities due to a lack of formal economic opportunities and sustainable alternatives, such as the bioeconomy.

It was highlighted that, while there are discussions about sustainability and regula-

tion, it is necessary to consider the reality of local populations, who often see crime as one of their only sources of income. Furthermore, the panel reflected that, by focusing only on environmental issues and ignoring conditions of poverty, civil society and the government fail to offer practical solutions for these communities.

Globalization, by facilitating the flow of goods and capital, has significantly expanded the reach of organized crime, allowing transnational criminal networks to operate in the Amazon with greater efficiency and breadth. This scenario highlights the need for a more integrated approach to the region, which considers its transnational dynamics and the specific challenges it faces. Furthermore, changes in environmental policies and growing international demand for Amazonian resources, especially from markets such as the United States, Europe and Asia, intensify pressure on the forest. This global consumption is often directly linked to the illegal economy, driving activities such as gold extraction and predatory logging.



Photo: Adobe Stock

## CHALLENGES IN GOLD GOVERNANCE AND REGULATION

The Escolhas Institute pointed out the magnitude of illegality in the gold mining sector in Brazil, estimating that 54% of the gold sold in the country is of illegal origin. This illegal gold often passes through the main Securities and Exchange Brokerage Firms (DTVMS), which can acquire the metal legally, but end up contributing to a complex web of interests that facilitates the “laundering” of illegally extracted gold.

One of the factors that allowed this abrupt expansion of illegal gold mining was the so-called “presumption of good faith” in the purchase of gold. Instituted in 2013, this rule allowed the origin of gold to be declared without documentary proof, which, combined with the use of paper invoices, made the traceability of gold and its distinction between legal and illegal almost impossible.

In response to complaints and public pressure, especially in relation to illegal gold mining on indigenous lands such as those of the Yanomami, the Federal Supreme Court (STF) suspended the presumption of good faith in 2023. As a result, between January and July 2024, the illegal gold mining production volume reduced by 84% compared to the same period in 2022 – highlighting the impact of the new regulations on mining activity.

The importance of implementing traceability mechanisms was also reinforced, as proposed in Bill No. 836, of 2021, which regulates the sale of gold in Brazil, conditioning it to the existence of mining and environmental guarantees, in order to curb the sale of illegally mined gold.

While illicit activities offer income opportunities for local communities, the absence of formal economic alternatives makes it difficult to break this cycle. The bioeconomy, based on the sustainable use of natural resources, was highlighted as a promising alternative.

Public policies that encourage sustainable production chains and traceability practices are essential to transform this proposal into a reality. However, experts have warned that the bioeconomy will only be successful if it is accompanied by investments in infrastructure and inclusive policies, adapted to local conditions.

Combating the criminal economy in the Amazon requires adapted governance and effective inter-institutional cooperation. It is essential that government bodies work in an integrated manner, strengthening both financial and territorial intelligence to accurately monitor and identify suspicious economic activities that fuel illegality.





In this scenario, civil society plays an essential role by organizing itself to press for more rigorous public policies and regulations aimed at sustainability and security in the region. At the same time, the private sector must assume its responsibility, intensifying traceability and transparency in its production chains, ensuring that inputs and resources used are free from links to illicit practices.

This alliance between government, civil society and the private sector is essential to promote a development model that ensures economic prosperity, environmental justice and the conservation of the Amazon. Only with coordinated actions will it be possible to face the challenges of the criminal economy and guarantee a sustainable future for the region and its inhabitants.

## THE ROAD TO COP 30

With COP 30 scheduled to take place in Belém in 2025, attracting attention from around the world to the region, the panel highlighted the urgency of integrating the fight against organized crime into the sustainable development agenda in the Amazon. Among the proposals presented are the strengthening of international cooperation between Amazonian countries, the creation of robust traceability systems in the gold market and the promotion of effective land governance.

Strengthening financial intelligence is a strategic pillar in combating the criminal economy in the Amazon. To expand the activities of the Council for Financial Activities Control (COAF) and other similar bodies, it will be necessary to invest in advanced technologies for monitoring and analyzing financial transactions, allowing greater efficiency in identifying suspicious capital flows.

This also requires the training of specialized teams and the development of partnerships with international institutions, since organized crime operates transnationally.

The integration between public security and environmental and financial agencies will be crucial to create an articulated network capable of tracking and interrupting the financing of illicit activities. In addition to making money laundering more difficult, this coordination should focus on intercepting resources before they are used to expand crimes such as illegal gold mining, timber trafficking and land grabbing.

Another aspect highlighted by the panelists was the creation of more rigorous legal mechanisms to track capital in circulation, especially in sectors that traditionally suffer from informality, such as the gold and timber trade. The implementation of electronic traceability systems and the requirement for transparency in the financial records of companies operating in the region can significantly reduce the loopholes that allow illicit resources to flow.

Additionally, the debaters highlighted the engagement of civil society and the private sector in supporting transparency and compliance policies as fundamental. Companies operating in the Amazon must be encouraged to adopt practices that guarantee the legality of their operations, promoting an ethical and transparent business environment, oriented towards sustainability. This joint effort will help dismantle the financial structures that support the criminal economy, contributing to the security and preservation of the forest.

PANEL

# THE CONSERVATION OF BIODIVERSITY AND THE REVERSAL OF THE AMAZON'S TIPPING POINT

Stage 2 – Amazonas River

November 7<sup>th</sup>, at 2 PM

**MODERATOR**

**Ilona Szabó:** Co-founder and president of the Igarapé Institute

**Rosa Lemos Sá:** General Secretary at the Brazilian Biodiversity Fund (FUNBIO)

**Pedro Walfir M. S. Filho:** Senior researcher at the Vale Institute of Technology

**PANELISTS**

**Angela Mendes:** Coordinator of the Chico Mendes Committee

**Josianne Rosa:** Environmental Manager at Alcoa

**Valmir Ortega:** Partner at Belterra Agroflorestas

BONIKTA

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*The tipping point of the Amazon, or point of no return, is the concept used when levels of deforestation and degradation reach levels that will prevent the forest from sustaining itself, regardless of any subsequent initiatives towards to mitigate the loss of vegetation cover. The panel discussed ongoing actions that may indicate a solution for preserving the forest and avoiding an irreversible situation. Facing this challenge involves a complex issue that requires several joint actions, from land regularization, establishment of better production management in the Amazon to the creation and consolidation of production with agroforestry systems.*

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Artist: Bonikta  
Technique: Digital illustration



One of the solutions to avoid the point of no return in the Amazon – when levels of deforestation and degradation reach levels that will prevent the forest from sustaining itself – involves the existence of reserves and preservation areas with support for communities thus allowing the forest to remain alive and sustainable development to take place.

The challenge for these places is to create and consolidate, over the long term, attracting investments for these communities, together with good public services, such as quality education to keep young people in the area. The establishment of a quality life in these locations will also prevent migration to urban centers and all the harm resulting from disorderly growth.

By keeping the forest preserved, social and economic costs are reduced – according to the Brazilian Biodiversity Fund (FUNBIO), it is less costly to preserve forests than to restore already degraded areas.

Preserving the forest affects not only the people of the region, but the entire planet. In the 1980s, Chico Mendes said that, without respect for the people who live in the Amazon, there is no way to guarantee that the forest will remain standing. And, to keep the forest alive, it is essential to provide fundamental conditions for the people who live there.

In this sense, the government needs to urgently move forward with a large land regularization project, listening to local populations to correctly allocate the 57 million hectares in the Amazon – an extension of public land currently without allocation – which will help in monitoring the areas. Furthermore, the People's Initiative Bill Amazônica em Pé (Standing Amazon, in English) proposes to allocate public lands to Conservation Units, Indigenous Lands, quilombolas and other traditional populations, with the argu-



ment that where there is demarcation, the forest is better preserved.

## THE NEW AGROFORESTRY PRODUCTION MODEL

The old model of forest exploitation that uses fires to “clean” the area has demonstrated in recent years the damage it can cause to all Brazilians. Fires linked to land grabbing bring serious environmental and social damage to the region. Furthermore, smoke from the fires in the Amazon reached the South and Southeast, warning of the urgency of a new sustainable economic model for the region.

The way out of the tipping point brings the opportunity to explore the potential of the standing Amazon rainforest along with its rich biodiversity. In this sense, changing the economic guideline from the predatory model based excessively on livestock farming to a model with agroforestry systems is fundamental.

In this new model, there is great economic potential in the production of medicines, oils and other products to generate wealth in the Amazon. Agroforestry systems combine the restoration of native tree forests with the productive management of fruits and products. It is possible to jointly cultivate short-cycle productions such as bananas, cassava and beans, with medium-cycle productions, such as cocoa, açai, cupuaçu, and long-cycle productions, with Brazil nuts, copaiba and andiroba.

The challenge, according to the panelists, is to replace livestock farming, one of the predominant economic activities in Brazil, which dominates a quarter of the Brazilian territory, totaling 200 million hectares. Of this total, 80 million hectares

are under degradation. In the Amazon alone, there are 10 million hectares in an advanced stage of land degradation. More than half of the areas occupied by livestock in the Amazon produce just one head of cattle per year for one hectare of land. The average monthly net income is below BRL 150 per hectare for this producer.

Livestock farming could be replaced mainly on small properties that produce four to five head of cattle. Agroforestry systems would also allow the reduction of the use of fire in the production model, in addition to imitating nature with a process of ecological succession carried out in a planned manner to generate the greatest possible economic benefit.

Agroforestry systems guarantee a considerable increase in the average income per hectare for producers. One of these examples was exposed by Belterra Agroflorestas. According to the company, in 2024 a ton of cocoa ranged between USD 2,100 and USD 12,000 per ton, depending on the international market, while a cocoa agroforest can produce BRL 100,000 in gross income per hectare, resulting in an income net of BRL 60 thousand per hectare.

These highly productive models also ensure a series of ecological benefits. When recovering a degraded area with agroforestry systems, the soil is protected with perennial species, reincorporating organic matter into the soil, reconnecting forest fragments, increasing the movement of biodiversity, helping to retain water in the soil, which increases the supply of water sources with rivers also returning. Agroforestry systems, according to the debaters, have the potential to restore 12 million hectares of the Amazon in a productive way.

## MINING CONTRIBUTION

Mined areas grew in Brazil, going from 5 thousand hectares in 1985 to 366 thousand hectares in 2024. Despite the significant increase, mining occupies fewer areas than other economic activities such as livestock farming. Still, mineral production can also contribute to avoiding the tipping point in the Amazon.

To achieve this, the management of companies' environmental impacts must be considered from the beginning of the projects. Mining companies must work to develop technologies that increase productivity, reduce the amount of waste and reduce water consumption.

Of the mining areas in Brazil, the mineral industry is responsible for 170 thousand hectares, while mining, which generates greater devastation, accounts for 196 thousand hectares. When comparing the two models, it is possible to notice major differences between the mineral industry and illegal gold mining. The situation has worsened in recent years due to the

appreciation of gold. In 2021, illegal gold mining grew 625% compared to 2010 within indigenous lands and 352% within conservation units, according to the Vale Institute of Technology.

When wealth production is divided by area, the difference between the two models is clear. While the mining industry production generates USD 97 million per km<sup>2</sup>, illegal gold mining generates USD 1.3 million per km<sup>2</sup>. In other words, supervised and regulated industrial mineral production with a smaller area offers a production of wealth almost a hundred times greater than mining.

The mineral industry has also advanced in protecting preservation areas close to exploration sites. According to the panel, companies have preserved springs and delimited larger preservation areas. Furthermore, mining must contribute to compensation and restoration projects in areas degraded both by companies and other economic activities.



## PANEL

# BIOECONOMY

**Stage 2 – Amazonas River**  
November 7<sup>th</sup>, at 5 PM

### MODERATOR

**Fernanda Rennó:** PhD in Territorial Planning and responsible for the Bioeconomy and Culture fronts of the Amazon Concertation network

### PANELISTS:

**Camilla Penna de Miranda Figueiredo:** General Director of the Green Municipalities Program

**Izete dos Santos Costa (Dona Nena):** Director of Combu Chocolates e Doces Artesanais and coordinator of the Vida Caboca project

**Joanna Martins:** CEO and Director of Operations at Manioca

**Marcos Aurélio Da-Ré:** Executive Director of Green Economy at Certi Foundation

**Neidinha Suruí (Ivaneide Bandeira Cardozo):** Indigenous member of the Kanindé Ethno-environmental Defense Association

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*The Amazon is the target of predatory exploitation and the government, business sector and civil society are discussing a new, more sustainable economic model. The bioeconomy, based on the management of native products such as cocoa, offers a viable alternative to monoculture, combining conservation and income generation. Land regularization, education and support for community businesses are fundamental to empowering local populations and protecting the forest. Public policies must prioritize sustainable models, encouraging diversified production chains and respecting traditional knowledge. Strategic partnerships can transform the forest into an example of balanced development.*

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**T**he largest tropical forest in the world, the Amazon plays a fundamental role in global climate regulation and the preservation of biodiversity. However, the region faces historical challenges such as predatory exploitation, the absence of the State and social exclusion, which put both its natural resources and the Amazon populations at risk.

During the panel, experts, community leaders and entrepreneurs raised alternatives for a more sustainable economic

model, capable of respecting the forest, valuing local communities and balancing the growing global pressures for natural resources. In this context, the concept of “bioeconomy” emerges as a promising proposal, but one that requires specific adaptations to the Amazonian reality.

Representatives from the Certi Foundation and the Green Municipalities Program emphasized that the bioeconomy should not be applied in a generic way, as its effectiveness in the region



depends on an approach that respects the times, rhythms and biological and cultural diversity of local communities. This implies considering typical agribusiness practices, such as monocultures and large-scale production, in favor of initiatives that prioritize sustainable management and the valorization of native products, thus promoting an economy that dialogues with the singularities of the Amazon and its people.

An example cited was the management of native cocoa, grown in agroforestry systems, which appears as a viable solution to reconcile environmental conservation and income generation, offering a sustainable model that contrasts with prevailing monoculture practices.

This theme was illustrated by the experiences of local entrepreneurs, in the speech of Izete dos Santos Costa, Dona Nena, entrepreneur owner of the Filha do Combu brand, which sells artisanal chocolates on Ilha do Combu, located in Belém do Pará.

Native cocoa, grown in agroforestry systems among other trees in the forest, exemplifies a type of natural reforestation that preserves biodiversity and maintains ecological balance. This practice, in addition to bringing direct economic benefits, such as the production of artisanal chocolates with high added value, contributes to the restoration of previously deforested areas.

Experts warn, however, of the risks of the disorderly expansion of monocultures, as is currently occurring with açai in some regions of the Amazon. The transformation of vast forest areas into homogeneous plantations has generated negative impacts, including the silting of rivers and the reduction of local biodiversity. In contrast, the agroforestry system stands

out for maintaining species diversity, preserving ecosystem services and promoting environmental resilience.

The model, defended by community leaders and supported by environmental organizations, illustrates the potential of the standing forest as an economic asset. In addition to generating income for local communities, sustainable species management strengthens the regional bioeconomy and positions the Amazon as an example of balanced development.

Initiatives like this reinforce the importance of public policies that encourage sustainable production systems and avoid the negative impacts of monocultures, ensuring a fairer and more ecological future for the region.

## COMMUNITY ENTREPRENEURSHIP

The creation of community businesses in the Amazon was identified as one of the keys to transforming the relationship between local populations and the forest. However, entrepreneurs face significant barriers, including a lack of infrastructure, distrust of local products and a lack of supportive public policies.

Despite the difficulties encountered, the artisanal chocolate brand Filha do Combu is an example of how small businesses can value local culture and generate positive economic impacts.

In this context, the Amazon Journey, a Certi Foundation project, was presented as an initiative that supports local entrepreneurship from the initial stages, helping to structure production chains and attract investors. Still, participants highlighted the need to expand projects like this to reach more communities



and strengthen a network of businesses based on Amazonian biodiversity.

## LAND REGULARIZATION AND DEMARCATION

The panel emphasized the importance of land tenure security for the advancement of the bioeconomy in the Amazon. Without property titles, traditional communities face difficulties in accessing credit, obtaining technical support and investing in sustainable businesses. Furthermore, the lack of regularization increases the vulnerability of these populations to land grabbing, illegal gold mining and other predatory activities.

According to MapBiomás, Indigenous Lands (ILs) represent one of the main obstacles to the advancement of deforestation in Brazil. Over the last 30 years, these areas have lost just 1.2% of their native vegetation, while private areas have recorded a significant loss of 19.9%. Representing 13.9% of the national territory, ILs are home to 115.3 million hectares of native vegetation, which is equivalent to 20.4% of the country's original vegetation cover in 2020. These areas play a crucial role in environmental preservation and maintenance of ecosystem services.

The demarcation of Indigenous and quilombola lands, therefore, is not only a matter of social justice, but an essential strategy to preserve the forest and face climate change. Participants reinforced that recognizing the territories occupied by these populations guarantees the autonomy of the people and protects biodiversity.





## EDUCATION AND TRAINING

Another central theme was the need to invest in education and training for local populations. Representatives from Kanindé and the Green Municipalities Program highlighted that without technical and political training, communities continue to be marginalized in decisions about the future of the Amazon. Educational programs aimed at valuing traditional knowledge and training young leaders are fundamental to empowering new generations and ensuring that they are able to decide on their own development.

The lack of access to quality education and adequate technical training was identified as one of the factors that perpetuate social exclusion in the Amazon. Investing in technical training, business management and even political training is essential so that traditional populations have the necessary tools to develop independently economically. These programs must prepare new generations to occupy leadership positions and actively

participate in decisions that will shape the future of the region.

Therefore, the bioeconomy model defended in the panel proposes an alternative to deforestation and predatory exploitation practices. Products such as native cocoa, andiroba and açai, when managed responsibly, can generate income for communities and keep the forest standing. However, practices such as açai monoculture, which has caused rivers to silt and loss of biodiversity, have been criticized as examples of what the bioeconomy should not be.

Participants highlighted the importance of public policies that encourage productive diversification and prioritize models that add value to Amazonian products. Furthermore, they highlighted the need to create specific markets for these products, connecting local businesses to consumers who value sustainable practices.

## INVESTMENTS AND SCALE

The lack of infrastructure and investment is also a critical problem. The Certi Foundation pointed out that the “scale” model applied to agricultural commodities, such as soy, is not applicable to the reality of the Amazon bioeconomy, which is based on the diversity of products and traditional management practices. The scale model, aimed at maximizing production in concentrated areas, goes against the logic of the forest and ignores the role of community businesses, based on the variety of species and natural production time.

Another barrier is the lack of financing and technical support for local enterprises, from the initial stages, which was also discussed. There must be incentive policies that ensure the viability of small businesses, many of which do not reach maturity and end up closing.

For the Amazon to develop a sustainable and inclusive economic model, it is essential to increase public and private investment in infrastructure and policies aimed at small and medium-sized forest enterprises. The creation of specific funds for the bioeconomy and the redirection of subsidies are proposals that can boost these businesses.

Instead of subsidizing large monocultures (soy, corn) and mining, as is currently the case, the government could allocate more resources to family farming, sustainable tourism and other economic models compatible with the standing forest. This financial support must be accompanied by technical support, so that communities are able to develop value-added activities and access markets. Initiatives such as the Amazon Journey, carried out by the Certi Foundation, can be replicated and expanded, providing local young

people with training and opportunities for sustainable development.

## PROPOSALS FOR THE FUTURE

Strengthening sustainable and community businesses in the Amazon is essential to balance economic development and environmental preservation. Experts point out the need to defend a bioeconomy that directs subsidies and public financing to support enterprises in traditional communities, prioritizing economic models that respect the times of the forest and the biological and cultural diversity of the region.

Instead of allocating resources to large monocultures, investments and tax incentives should focus on local businesses that promote sustainability. This includes technical and financial support to help businesses mature and compete in broader markets, valuing products such as cocoa, açai and andiroba. The focus must be on quality and preservation, creating production chains that add value to producers and guarantee the maintenance of ecosystems.

Furthermore, strategic partnerships between the public sector, communities and the private sector can create an enabling environment for responsible business practices. Companies interested in operating in the Amazon need to respect local knowledge and practices, contributing to sustainable development and environmental preservation.

These initiatives, combined, have the potential to transform the Amazon into an example of balanced development, in which the standing forest is a source of wealth and resilience for the communities that depend on it.

PANEL

# EXPANSION OF PROTECTED TERRITORIES

Stage 2 – Amazonas River  
November 7<sup>th</sup>, at 3:30 PM

**MODERATOR**

**José Carlos Carvalho:** Former Minister of the Environment and managing partner of the consultancy Seiva

**PANELISTS**

**Sebastião Gonçalves Neves:** Vice-president of the Rubber Tappers Organization of the state of Rondônia and resident of the Lago Cuniã Extractivist Reserve

**Cristiano Cobo:** Technical and Sustainability director at Anglo American

**Cláudio C. Maretti:** Leader of the research group on Collaborative Conservation and Protected and Conserved Areas in the Geography department of the Faculty of Philosophy, Letters and Human Sciences of the University of São Paulo (FFLCH-USP). Member of the Expert Group of the Green List of Protected and Conserved Areas of the International Union for Conservation of Nature (IUCN), the IUCN World Commission on Protected Areas and the Atibaia Socio-Environmental Collective

**Claudinete dos Santos Colé:** Member of the Board of Directors of the Association of Remaining Quilombola Communities of the Municipality of Oriximiná – Pará (ARQMO)

*Essential for biodiversity and climate balance, Protected Areas face a lack of resources and economic pressures. The panel highlighted the need to strengthen the Chico Mendes Institute (ICMBio), promote sustainable production chains and invest in environmental education and reinforced the crucial role of traditional communities in conservation, even in the face of land challenges. Integrating conservation and economy is essential to ensure sustainability and social justice, while public-private partnerships can expand protection and generate local development.*



# EMARCAÇÃO JÁ



Artist: Bonikta  
Technique: Digital illustration

**T**he conservation of Protected Areas (PAs) in Brazil is a topic of growing relevance, as they are essential for water and climate stability and for the preservation of biodiversity, in Brazil and around the world. However, the national scenario highlights a paradox: while the country has one of the largest extensions of protected areas in the world, it faces structural and political challenges that compromise the effectiveness of the management of these areas, in addition to the pressure for their reduction.

Protected areas in Brazil are legally recognized territorial spaces intended for environmental preservation, with the aim of conserving ecosystems, protecting biodiversity, maintaining ecosystem services and promoting the sustainable use of natural resources. They include several categories with different levels of restriction and purposes, and can be public or private.

The main categories of protected areas in Brazil include Conservation Units (CUs),

created by the National System of Nature Conservation Units (SNUC, acronym in Portuguese), which are divided into two main categories: those of Integral Protection, which aim at the integral preservation of nature and only allow research and environmental education activities, such as National Parks, Ecological Stations and Biological Reserves; and those of Sustainable Use, which combine conservation and economic activities, allowing the rational use of natural resources, such as Extractivist Reserves (RESEX, acronym in Portuguese), Environmental Protection Areas (APA, acronym in Portuguese) and Sustainable Development Reserves (SDRs).

Another important category are the Private Natural Heritage Reserves (RPPNs, acronym in Portuguese), private areas recognized as being of interest for conservation, where the owners commit to preserving biodiversity. Furthermore, there are Indigenous and Quilombola Lands, recognized by the State as traditional territories, which play a relevant role in environmental conservation, although they are not formally categorized in the SNUC.

Military Areas, although not officially recognized as protected areas, contribute to conservation due to access restrictions. Other forms of conservation include Ecological Corridors, which connect protected areas to facilitate the flow of species; the Ramsar Protected Areas, wetlands of international ecological importance; and Biosphere Reserves, created to integrate conservation and sustainable development.

Problems and solutions for managing PAs were discussed. The Chico Mendes Institute for Biodiversity Conservation (ICM-Bio), the central body in the management of federal Conservation Units (CUs), for example, operates with an insufficient

budget and staff. An alarming fact is that only 20% of protection needs are met by the agency, exposing PAs to risks such as invasions, illegal deforestation and territorial conflicts.

Furthermore, pressure from economic sectors such as agribusiness and mining worsens the situation. In states like Rondônia, the expansion of agricultural commodities is often seen as a priority in public policies, to the detriment of environmental conservation. This perspective ignores the long-term impacts of environmental degradation, such as reduced water quality and loss of climate resilience.

On the other hand, indigenous peoples and traditional communities that inhabit or surround these areas, such as quilombolas and riverside dwellers, face challenges related to land regularization and access to public policies. The lack of land titles prevents these populations from fully using their territories in a sustainable way, even though they are recognized as protagonists of environmental conservation.

But there is a way to reverse this scenario. The example of quilombolas in Oriximiná, a municipality in Pará, illustrates how traditional knowledge can be an essential ally in conservation. As explained in the panel, the Boa Vista community – the first quilombola territory to be titled in Brazil, in 1995 – lives in harmony with the forest, using sustainable practices that preserve biodiversity and sustain the local economy. This ancestral knowledge, often underestimated, is fundamental to integrating conservation.

In the Boa Vista community, techniques such as agroforestry management, the use of medicinal plants and the collection of socio-biodiversity products, such

as nuts, açai and oils (andiroba and copaíba), exemplify ways of generating income for communities while maintaining the standing forest. Furthermore, these practices strengthen local culture and identity, contributing to social cohesion and valuing knowledge that can be incorporated into public policies aimed at environmental conservation.

## **PATHS TO THE SUSTAINABILITY OF PAs**

Faced with the challenging scenario for the conservation of PAs in Brazil, the panel of experts presented a series of recommendations that seek to strengthen environmental protection, address gaps in management and promote integration between traditional communities, public authorities and the private sector.

Among the proposals, the need to strengthen and finance the institutions responsible for PAs stands out. Increasing the budget allocated to the Chico Mendes Institute for Biodiversity Conservation (ICMbio) and other entities is essential to ensure the effective management of these territories. Furthermore, the mobilization of international resources and the encouragement of partnerships with companies that invest in preservation actions present themselves as promising alternatives to overcome budgetary challenges.

The recognition of the knowledge and practices of traditional communities was also highlighted as a priority. Furthermore, the regularization of Indigenous and quilombola lands is, in the panelists' view, an indispensable step to ensure environmental protection and promote development. The government must create mechanisms that encourage traditional practices, which not only keep the forest

standing, but strengthen the historical relationship of these communities with their territories.

Another central point of the recommendations is the encouragement of sustainable production chains. Projects such as the Lago do Cuniã Extractivist Reserve, in Rondônia, demonstrate that activities such as collecting Amazon nuts (Brazil nuts) and rubber production can be economically viable without causing environmental damage. The creation of tax incentives and specific lines of credit for cooperatives and associations that operate sustainably is essential to strengthen these initiatives and expand their impact.

Environmental education was also emphasized as a pillar for long-term conservation. Incorporating the appreciation of PAs into school curricula, both in urban and rural areas, is a strategy to form a society more aware of the importance of biodiversity. This education must include recognition of traditional practices and the role of local communities in preserving ecosystems.

Partnerships with the private sector were highlighted as a strategic opportunity. Companies can collaborate by creating Private Natural Heritage Reserves (RPPNs) or supporting ecological restoration projects. These areas can be recognized internationally, giving visibility to corporations' environmental actions and contributing to global sustainability commitments. Furthermore, the regulation of new forms of conservation, such as military areas and private reserves, was presented as a way to expand environmental protection, especially in territories with high ecological value.

The regulation of new forms of conservation expands the categories provided for in SNUC, including RPPNs, private areas



voluntarily destined for conservation and legally recognized by the public authorities. Although “private reserves” is a generic term, not all of them qualify as RPPNs, which follow specific standards under the supervision of ICMBio or state bodies. These regulations seek to encourage the creation of more RPPNs and other reserves adapted to contexts of sustainable use and protection.

In addition to RPPNs and military areas, new forms may include hybrid categories, such as ecological corridors on private properties, expanded buffer zones, or sustainable use reserves that combine conservation and agroforestry production. Some recent proposals suggest regulating areas specifically aimed at climate protection, such as carbon reserves, or categories that encourage public-private partnerships in conservation.

The panel also highlighted the need for public policies that prioritize investments in basic infrastructure for Protected Areas (PAs), including internet, education and housing, guaranteeing local communities a quality of life compatible with environmental conservation objectives. Digital inclusion is essential for access to information, education and economic opportunities, while improvements in education and housing strengthen the sustainable management of natural resources and ensure dignified conditions for residents. This integration between quality of life and environmental protection is essential to consolidate commitments to conservation and sustainable development.

These recommendations showed that the protection of PAs in Brazil is not only an environmental issue, but also a social and economic one, requiring coordinated actions between public authorities, local communities and the private sector. With robust public policies, adequate financing and recognition of traditional practices, it is

possible to ensure that Brazil’s natural riches are preserved, while promoting the well-being of present and future generations.

## THE ROLE OF THE PRIVATE SECTOR

The panel discussed that the private sector has responsibilities in relation to protected areas, reflecting the commitment not to operate in these regions and the importance of establishing genuine connections with local communities. This approach seeks to guarantee the “social license to operate”, going beyond legal requirements and promoting responsible socio-environmental practices. In the mining sector, this strategic stance aims to minimize conflicts, increase transparency and align business operations with environmental preservation and social development, reconciling sustainability with economic activity.

Companies that own large private areas can play a relevant role in this scenario, assuming responsibilities in environmental conservation and recovery. In order to achieve this, it is necessary that these initiatives are regulated and incorporated into environmental policies, ensuring incentives, monitoring and alignment with national preservation objectives.

In addition to contributing resources, the private sector can develop innovative sustainable management practices. Private areas with ecological importance can be recognized internationally, giving visibility to companies that adopt responsible environmental actions. This dialogue and cooperation between sectors allows us to expand conservation efforts and also integrate economic development with environmental commitment, promoting a more comprehensive and sustainable approach to protecting biodiversity in Brazil.

**PAINÉIS - 7/11**

**PALCO 3**  
**RIO TROMBETAS**



## PANEL

**COP30 – WHAT'S NEXT?****Stage 3 – Trombetas River**November 7<sup>th</sup>, at 9 AM**MODERATOR**

**Paulo Eduardo Artaxo Netto:** Full professor and Head of the Department of Applied Physics at the Institute of Physics of the University of São Paulo (USP)

**PANELISTS**

**Hugo Barreto:** Director of Climate, Nature and Cultural Investment at Vale

**Marina Grossi:** President of the Brazilian Business Council for Sustainable Development (CEBDS)

**Mauro O' de Almeida:** Attorney General of the Union

**Thelma Krug:** Professor and researcher in Earth Sciences and Climate Change



*COP 30 in Belém will need to address not only the protection of forests, but also the urgency of reducing the use of fossil fuels, the main greenhouse gas emitters. The importance of making environmental conservation an economic asset and the urgency of financing climate adaptation were emphasized, as well as strengthening governance for efficient management of these resources. The private sector, with investments in technologies such as green hydrogen and biofuels, was highlighted as essential for the transition to a low-carbon economy. Other agendas included the use of critical minerals and the engagement of local communities, promoting dialogue and respect for environmental licensing times.*







Artista: Laiza  
Técnica: Colagem

**T**he panel that addressed COP 30 proposed a crucial question for the conference: should the event focus exclusively on forests? Although these are essential for combating climate change and conserving biodiversity, there is a consensus that COP 30 in Belém needs to have a broader scope.

The problem of fossil fuels – responsible for approximately 80% of global greenhouse gas emissions – remains one of the main points of the climate crisis and needs to be addressed with due priority.

If COP 30 focuses on just one area of discussion, there is a risk of weakening the global focus on core issues of the crisis, such as the energy transition.

Among the challenges highlighted, the engagement of the private sector stands out, which plays a fundamental role in the transition to a more sustainable economic model. The Amazon region, which will host the conference, is one of the most impacted and also vital for global conservation.

This is a time for attention, given that 10 years after the Paris Agreement, little progress has been made regarding climate financing and support measures for developing countries.

The sustainable development in question requires a new economic approach, which transforms forest conservation into a financial asset. This approach implies the promotion of Nature-Based Solutions (NbS), which range from the conservation of ecosystems to the restoration of degraded areas, with the aim of maximizing environmental and economic benefits. The implementation of this model requires strong political support and the approval of specific legislation, such as the Carbon Market Law, to strengthen financial mechanisms and support sustainable initiatives.

The transition to a low-carbon economy requires that Brazil – and especially companies with high impact – be prepared to adapt to the new green economy. In this context, the Brazilian private sector claims to have a significant participation in Nationally Determined Contributions (NDCs).

However, for Brazil to achieve its environmental goals and contribute to the global objective of limiting warming to 1.5°C, it is essential that the private sector remains proactive and engaged in the energy transition and the implementation of sustainable practices that promote a climate-resilient economy capable of generating jobs and innovation.

Large companies, such as Vale, are investing in alternative technologies and energies that help reduce their carbon footprints. These efforts include the production of renewable biofuels and innovative solutions such as green hydrogen, electrified vehicles and transportation, among other alternatives.

Still in the context of a new economic model, the importance of Nature-based Solutions (NbS) in regions of high environmental complexity, such as tropical forests, was discussed – the Democratic Republic of Congo was mentioned, which has the second largest tropical forest in the planet.

These solutions are seen as essential instruments to mitigate the impacts of climate change and protect biodiversity, but they need to be taken seriously, with personalized strategies adapted to local conditions.

## CLIMATE FINANCING

The panel brought up again the issue of climate financing, which continues to be a major challenge for developing countries. The REDD+ mechanism, which encourages the reduction of deforestation and degradation and promotes sustainable forest management, is one of the pillars of this strategy. However, the lack of effective financial support from developed countries has made it difficult to obtain the necessary resources for climate projects.

With the worsening of extreme climate events, such as severe droughts and forest fires, adaptation is no longer a choice, but an urgent and unpostponable need. Brazil, as a country vulnerable to these phenomena, faces additional costs to adapt, which reinforces the need to convert the national economy into a green and carbon-neutral economy.

Experts highlighted that the need for financing exceeds trillions of dollars. This scenario generates a stronger demand for COP 30 to take the issue to more effective negotiation, with actions that go beyond promises and materialize into accessible



resources for the countries most affected by the climate crisis. As emphasized in the panel, what is expected is, in fact, “a punch on the table”, so that “the negotiation bears fruit and is not just more paper”.

## **INCLUSION AND }ENGAGEMENT**

COP 30 is also seen by debaters as a unique opportunity to reduce social inequalities in the Amazon, a region with some of the worst human development indices in Brazil. The inclusion and engagement of the local population was highlighted as essential so that they can understand and benefit from global climate discussions.

Furthermore, strengthening the government structure and expanding communication about the importance of COP 30 are fundamental steps highlighted by experts so that municipalities are prepared to implement climate actions in an effective and inclusive way.

In this sense, the creation of a yellow zone was suggested to represent communities that feel excluded from the main discussions, promoting the inclusion of local communities and civil society in COP agendas.

In addition to forests, the importance of debating other critical topics was highlighted, such as urban resilience, climate change in non-forest contexts and the sustainable exploitation of minerals for the energy transition.

Many of these resources, fundamental for technologies such as batteries and renewable energy, are located in areas of high biodiversity and Indigenous Lands, which pose significant ethical and environmental challenges.

Exploring resources requires not only advanced technical approaches, but also open dialogues and collaborations with local communities, respecting the time required for environmental licensing processes and biodiversity mapping. The proposal is to minimize environmental and social impacts, adopting an approach that integrates environmental protection and the rights of local populations.

Another point discussed was the investment by companies in connectivity and digital inclusion projects for forest populations, especially quilombolas and indigenous people, so that these communities can participate more actively in the global digital and environmental agenda.

The objective is to allow them to follow climate discussions and contribute with local perspectives that are essential for a COP that is truly inclusive and representative of the realities of the Amazon.

The panelists believe that Brazil needs to leverage its “mobilization capacity” so that COP 30 brings Brazilian scientific knowledge to the forefront, as it represents a historic opportunity for Brazil to show the world its commitment to sustainability, science and innovation.

In addition to infrastructure legacies and investment in bioeconomy, the strengthening of cultural aspects was discussed, such as the revitalization of historic spaces and the creation of museums that contemplate biodiversity and traditional knowledge of the Amazon.



**PANEL****CULTURE, EDUCATION AND COMMUNICATION**

**Stage 3 – Trombetas River**  
November 7<sup>th</sup>, at 10:30 AM

**MODERATOR**

**Hamilton Santos:** Executive Director of the Brazilian Association of Business Communication (ABERJE)

**PANELISTS**

**Gloria Caputo:** Teacher and founder of Vale Music Belem

**Marcela Bonfim:** Photographer

**Djuena Tikuna:** Indigenous singer and journalist from the Amazon

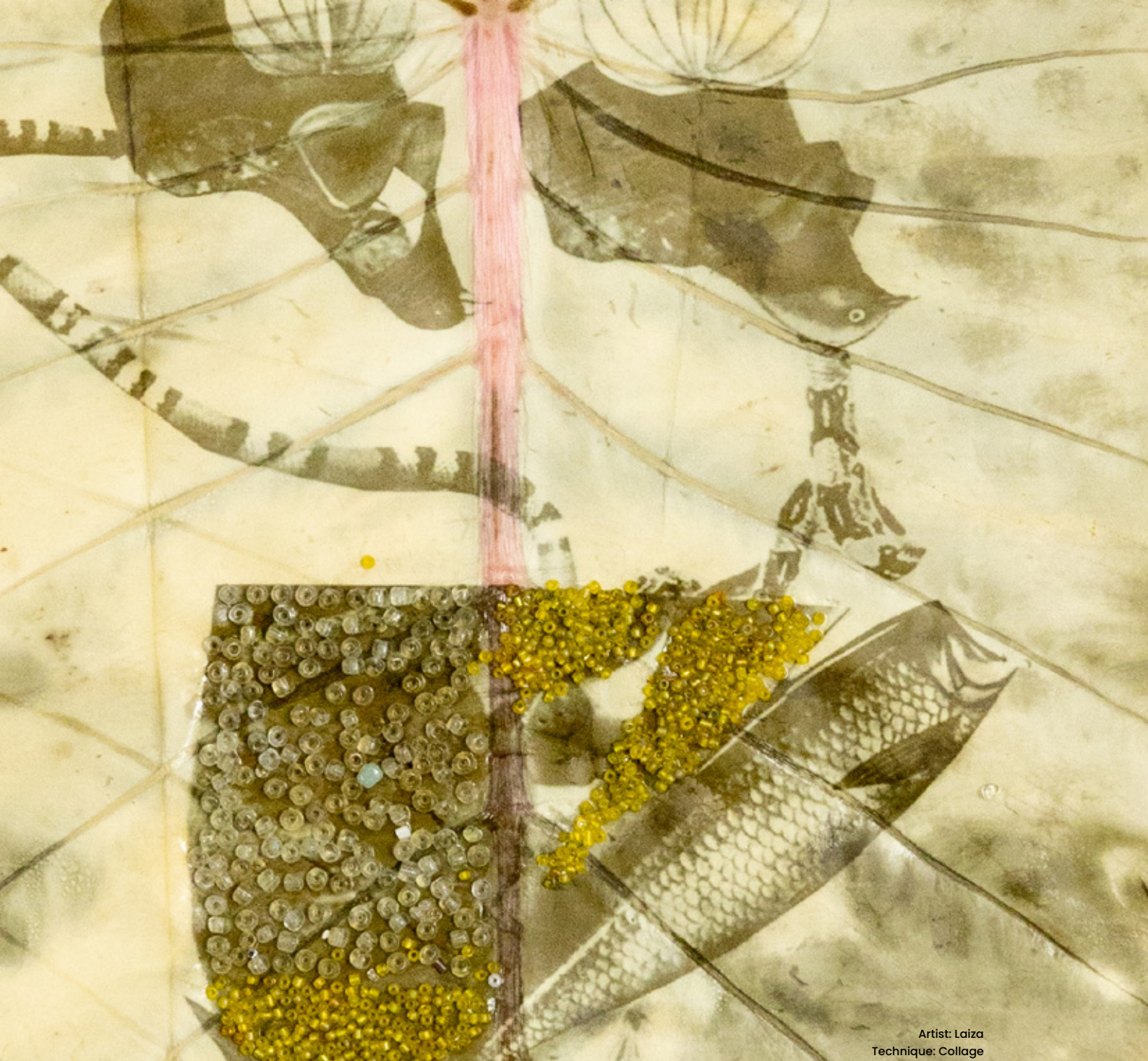
**Fernanda Rennó:** PhD in Territorial Planning and responsible for the Bioeconomy and Culture fronts of the Amazon Concertation network

**Hugo Barreto:** Administrative Director of the Vale Cultural Institute

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*Based on the experiences of cultural producers in the Amazon who carry out different initiatives, the panel showed how aspects of culture, education and communication are related to each other and can be drivers of sociocultural development. These three elements can also be allies in environmental preservation, in expanding respect and rights for indigenous peoples and traditional populations in the Amazon. However, new forms of support and resources are needed, with the collaboration of institutes and producer networks, that go beyond culture just as a production of shows.*

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Artist: Laiza  
Technique: Collage

**T**he Amazon is a region with immense diversity of people, traditions and cultures. It is through culture that these different people with similarities and differences express themselves about the world.

Although traditional peoples, especially indigenous people and quilombolas, have inhabited the region for hundreds of years, the integration of these cultures into academic (education) and entertainment spaces is recent.

For the people of the Amazon, the elements of culture, education and communication are interconnected, using them as a form of resistance and affirmation of their own existence, even with the aim of ensuring their fundamental rights. Regardless of their origin or the type of artistic expression they use, the panelists agreed that the three aspects have the power for social transformation.

Culture must be understood not only as art for spectacle, but as an agenda for trans-



forming society. To achieve this, it is necessary to change the incentive and sponsorship format. Organizing networks of cultural producers together with the private sector can change the logic of cultural support, going beyond sponsorship. The concept of a network of cultural producers aims to solve certain challenges of cultural encouragement, such as enabling cultural producers to have autonomy and support each other.

This understanding is also expanding to institutions and projects, which are beginning to see support for culture not simply as promoting shows, but rather as encouraging and strengthening the traditions of people and cultural producers.

An example of this is the Vale Cultural Institute, which organizes 823 projects nationally, totaling more than BRL 1 billion in resources. The projects are articulated with indigenous, traditional people and ethnic-racial agendas, with the aim of strengthening the diverse identities of Brazil and the Amazon, giving visibility to the culture of these peoples.

Networking is also the basis of the work carried out by Amazon Concertation, an initiative that brings together 800 members from different sectors. This joint action allows us to enhance actions in the Legal Amazon, involving the private sector and providing agility and scale for cultural, artistic and educational activities.

## ORAL COMMUNICATION

The culture of the indigenous, quilombola and riverside peoples of the Amazon is very alive and directly linked to the lives of these populations. Life traditions are passed on to new generations mainly orally. Thus, communication acquires a special role when it comes to culture, as the simple fact of communicating brings with it a repertoire

of life for these people directly related to the life they developed with the forest.

The existence of such a diverse culture generates conflicts in the acceptance of the knowledge of these people by urban society. These contradictions are revealed even in educational spaces, such as schools and universities. Indigenous people still report prejudices and difficulties in accepting this different way of expressing the world.

For the Tikuna indigenous people, this difficulty is expressed from the beginning and formation, as the indigenous people grow up listening to their native language. The native Tikuna language is a tonal language, in which the same word can take on different meanings, depending on the intonation of its syllables. It has thousands of speakers in Brazil, Peru and Colombia and is not part of any linguistic trunk or language family. Communication in the Tikuna language is closely linked to singing, which is a very common form of expression for speakers. Only when they enter formal education do some begin to have contact with Portuguese.

But the difficulty of communication between Portuguese speakers and the Tikuna ends up generating a feeling of exclusion of these people from educational spaces in Brazil.

Due to the difficulties of acceptance, the Tikuna people have a form of resistance in their culture and art, which they have known since birth. Singing is one of the ways they identify and use to disseminate their knowledge and even face some growing problems in indigenous communities, such as suicide, drug addiction and human trafficking.

Likewise, the knowledge of African Brazilian people in the Amazon was rendered



invisible and neglected. Despite being a storehouse of knowledge for indigenous and African Brazilian people, the Amazon is also the space where these people were stigmatized, excluded and understood without their different identities.

The predominant view in Brazil is still colonizing, which looks at the Amazon with prejudice and disregards the region's particular aspects. However, culture is associated with the economy of these people, and with their way of working, which has the preservation of the forest as its greatest value. Through singing or storytelling, the people of the region show how communication and culture are closely related to this way of understanding the world.

## EDUCATION AS INCLUSION

Instead of educational spaces (schools, universities and teaching materials) being exclusionary, by not accepting the culture of these peoples, education can serve as a link between all peoples, taking into account the particular aspects of peoples' identities.

Education must be linked to culture, and the arts, such as music, must be applied to developing people's potential, especially children. The democratic and internalized teaching of music in the Amazon, even allowing the professionalization of young people, can meet the demand of children and young people throughout the Amazon territory, eager for artistic knowledge to express themselves.

To meet this demand, it is also important to train art education teachers, a challenge that remains in the region. Although the supply of teachers has increased over the years, there is still a lack of professionals.

At the same time, traditional people need greater openness in society to express their art and culture. The occupation of cultural spaces in cities is a desire of these populations.

As an example of this, it was only in recent years that indigenous peoples had access to the stage of the Teatro do Amazonas, in Manaus, for the first time. Despite its almost 130 years of existence and being a reference as a national and international cultural space, the theater had never had traditional people presenting themselves expressing their culture.



By intertwining culture, education and communication, traditional forest peoples can have greater visibility, resulting in more respect for the rights of these populations, greater dignity and opportunities for all.

## PANEL

# THE CHALLENGES OF ZERO DEFORESTATION IN 2030

**Stage 3 – Trombetas River**November 7<sup>th</sup>, at 2 PM**MODERATOR**

**André Guimarães:** Executive Director of the Amazon Environmental Research Institute (IPAM)

**PANELISTS:**

**Thelma Krug:** Retired senior researcher at the National Institute for Space Research (Inpe), and former director of the Department of Policies to Combat Deforestation at the Ministry of the Environment (MMA)

**Roberto S. Waack:** President of the Board of Arapyaú Institute

**Jorge Luiz Abreu do O’De Almeida:** Director of the Brazilian Army Department of Real Estate and the Environment (DPIMA)

**Andrea Azevedo:** Executive Director of the JBS Fund for the Amazon



*When debating challenges and solutions to combat deforestation in the Amazon, the panel highlighted that command and control actions are essential, but insufficient for a sustainable and long-term solution. Panelists emphasized the need for resources and policies that promote conservation and take into account the complexity of the Amazon region, as deforestation is also an economic issue. Conservation will only be possible when it is based on community engagement and sustainable alternatives for the survival of these populations, which requires financial support and assistance for small producers. All emphasized the importance of public and private policies that encompass inclusive governance and the strengthening of the carbon market as mechanisms for financing conservation.*







Artist: Laiza  
Technique: Collage

**T**he panel began with a question: how can we act to reduce or end deforestation in the Amazon region? Among the experts present, the reflection arose: is zero deforestation possible?

The Brazilian Forest Code provides for 80% preservation in the Amazon, a percentage considered unique in the world. Therefore, it is important to understand the difference between vegetation suppression and deforestation. With the implementation of the Deforestation Prevention and Control Plan,

institutions have been working to contain illegal activities, but the biggest obstacle is the high cost of these actions.

Although the political issue is crucial, the real problem lies in the scarcity of financial resources to implement these actions, which often involve the integration of forces such as the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA), the Armed Forces and the Federal Highway Police to combat illegal activities in the countryside.



In addition to actions in defense of the country, the Army has an important role in combating illegalities in the Amazon and in the environmental management of areas under its control – there are around 24 thousand square kilometers, according to the Brazilian Army Department of Real Estate and the Environment (DPIMA). An active partner in joint operations with IBAMA and other bodies, the Army highlights positive results, but also reinforces the extent of the logistical and financial difficulties, due to the vastness of Brazilian forest areas.

There was a consensus among the panelists on the importance of command and control in this mission, but the method alone has limitations. Therefore, the fight against deforestation must be seen as an economic agenda, not just an environmental one, since many people in the Amazon see preservation actions as a threat to their form of survival, which creates a gap between nature conservation and the needs of the people who inhabit the forest.

Again, there is a need for effective engagement of the local population, instead of operations that the panelists called media-based. The solution needs to come from actions that respect the complex social dynamics of the region, where, often, people involved in illegal activities are, in

fact, informal workers, poorly informed or unassisted by public authorities. Problems such as deforestation are extremely complex and cannot be resolved in a simplistic way, requiring inclusive governance that involves all sectors of society.

Much was said in this panel about the challenges of reconciling sustainable business models with environmental conservation. Although there are viable solutions to keep 80% of the forest standing, the financing for this is still insufficient – again the scarcity of resources is an impediment to the advancement of this transition. The situation is more complicated in areas of agrarian reform settlements, where many small producers are being exploited by external actors who cause illegal deforestation and leave an environmental liability.

The biggest challenge, according to the debaters, is the lack of technical assistance in these areas, especially in those with high rates of deforestation – such as settlements, where deforestation reaches rates of up to 30%. While large producers have more access to financial incentives and information, small producers face difficulties, which requires a different approach to solving local problems in a sustainable way. In other words, it is necessary to work on solutions that involve understanding the social dynamics of the region.



## INTEGRATION BETWEEN THE PUBLIC AND PRIVATE SECTORS

The panel addressed the multiple challenges of deforestation in the Amazon, focusing on integrated solutions that involve both the public and private sectors, as well as social engagement that respects the specificities of each region.

It is essential that Brazil invests in broader strategies, in the construction of public and private policies that include economic development, environmental education and, above all, shared governance, so that a future can be achieved in which conservation and development can coexist in a harmonious way.

The maintenance of forests directly impacts the Amazonian population that lives and depends on these areas to survive and, therefore, it must be at the center of decisions.

The fight against deforestation needs to include the economy and increase the participation of the private sector, which plays a central role in transforming production chains. Companies can no longer ignore environmental externalities and must adopt traceability and compliance practices, contributing to real changes in the business model, such as reforestation associated with agricultural production.

It is necessary to guarantee sustainable alternatives, especially for settlements and family farming. In other words, it is necessary and urgent to implement public policies that provide technical assistance and alternatives such as agroforestry systems. Traceability in livestock farming, for example, could help solve part of the problem, but the

combination with command and control measures is necessary to combat illegalities.

Once again, the social aspect appeared as a decisive factor for the population's engagement, as it is not possible to dissociate forest loss from social inequality. Valued land increases the incentive for deforestation, so it is necessary to ensure that there are laws and policies in place to contain these pressures.

The participation of municipalities in this process is also essential, but many are disengaged and lack the structure to deal with these issues. In this context, the role of the carbon market emerges as an alternative.

Finally, the discussion raised that forest conservation should receive a separate incentive, which is not market-based and has an impact beyond Brazilian territorial limits. The reason is that Brazil has the largest tropical forest on the planet, but the Democratic Republic of Congo, for example, has the second largest area, showing that it is necessary to act globally on the issue of forests.

It is necessary, therefore, to think about the complex opportunities that the Amazon offers – more than its complex problems. Competition with illegality in the market for forest-related products is one of the biggest challenges.

Therefore, deforestation is no longer an issue related exclusively to climate change, but also affects the institutional and business environment.

## PANEL

# THE IMPACT OF CLIMATE CHANGE ON PUBLIC HEALTH

**Stage 3 – Trombetas River**  
November 7<sup>th</sup>, at 3:30 PM

**MODERATOR**

**Livia Menezes Pagotto:** Knowledge Manager at Arapyaú Institute and Executive Secretary of the Amazon Concertation network

**Flávia Marçal:** Executive secretary of the State Early Childhood Network and professor at the Rural University of the Amazon (UFRA).

**PANELISTS**

**Camila Acosta:** Manager of Instituto Ar

**José Roberto Pinho de Andrade Lima:** Permanent professor of the Postgraduate Program in Security, Development and Defense at the Superior School of Defense (PPGSDD)

**Livia Caricio Martins:** Director of the Evandro Chagas Institute/SVSA/MS. Director of the Pan American Health Organization/World Health Organization (PAHO/WHO) Collaborating Center for Emerging and Re-Emerging Arboviruses and other Emerging Zoonotic Viruses

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*The panel addressed the impacts of climate change from the perspective of One Health, a perspective that encompasses human, animal and environmental health. Mitigating them requires solutions that involve public policies adapted to the specificities of the Amazon. This involves reinforcing data collection and constant monitoring in the region, making it possible to measure the real scenario and outline effective solutions in the field of health. Children, the elderly, indigenous people, riverside residents and the low-income population in the region's urban centers, such as Belém, were identified as the most impacted.*

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Artist: Laiza  
Technique: Collage

**C**limate change has intensified the occurrence of diseases such as dengue, as it creates favorable conditions for the reproduction of vectors, increasing their density and transmission cycles. In the Amazon, the vast biodiversity of vertebrate hosts and infectious agents, such as viruses, bacteria and fungi, enhances this scenario.

Furthermore, viruses in equilibrium in monkeys, bats or other wild animals can, due to climate change, move in search

of food, increasing contact with humans. This process facilitates mutations and favors transmission, as occurred with the coronavirus in the Covid-19 pandemic.

Air pollution, although not directly linked to the climate, is associated with atmospheric emissions of gases that generate impacts on health, such as carbon monoxide and other particles emitted by fires – in addition to carbon dioxide, which, although less toxic directly, it is one of the main contributors to the greenhouse effect.



In Brazil, especially in the Amazon, it is necessary to improve the instruments of air quality management. The lack of data and adequate monitoring prevents effective health care strategies and the definition of emergency alerts for pollution spikes, for example.

The Amazon faces historic inequality in the distribution of resources, which also has repercussions on health. Currently, the current scenario is one of low vaccination coverage, especially in Pará, where

coverage is less than 80% for essential vaccines and only 35% for MMR.

This scenario, also motivated by political-ideological issues and misinformation that undermines vaccination campaigns, increases the exposure of the population, especially children and the elderly, to the impacts of diseases worsened by climate change.

In Pará, 11% of the population is between 0 and 6 years old, above the national average of 8%. In this sense, investment in early childhood was highlighted by the panel as a strategic priority. A study by Nobel laureate in Economic Sciences James Heckman, cited during the event, reveals that every dollar invested at this stage generates savings of seven dollars over a lifetime.

## THE HARDEST HIT

Indigenous and riverside populations are among the populations most vulnerable to the impacts of the climate crisis. In the Amazon, where “rivers are the streets”, drought directly affects subsistence in the region, which can worsen food insecurity rates. Rivers give these populations access to food and other basic resources.

In the face of droughts, the logistics of offering assistance in these regions are even more challenging: without roads, the only transport alternative is air travel, which considerably increases the costs of guaranteeing the basics, such as health care.

In urban centers, low-income populations also face challenges, especially related to air pollution, whether due to practices such as burning garbage or infrastructure. Many families resort to using wood stoves due to lack of access to cooking



gas. The practice exposes women and children, who tend to spend more time in the kitchen, to high levels of indoor pollution, associated with a 50% increase in cases of childhood pneumonia.

At the other age end, the elderly are impacted both by the short-term effects of air pollution and by prolonged exposure throughout their lives, associated with an increased risk of diseases, such as heart attack and cancer.

## PROMISING PATHS

The panel presented initiatives that point to promising paths. The Interministerial Single Healthcare Committee, led by the Ministry of Health, which brings together 14 ministries, was cited as an example of intersectoral coordination. The adoption of microplanning is an institutional effort to meet specificities, as is the case in the Amazon. To combat low vaccination coverage in the region, the ministry resumed educational campaigns, featuring Zé Gotinha, poster boy character for the National Immunization Program (PNI).

The Respira Amazônia coalition is an example of ongoing civil society initiatives. Collective work managed to increase the number of equipment for monitoring air quality in the region from less than 50 to 158 in one year.

The progress is significant, since the lack of reliable data makes it impossible to plan adequate responses and even measure the impact of public policies. There is an increasing need for systems that provide transparency and facilitate evidence-based decision-making.

Another example of local effort is the articulation for the creation of the Secretariat of Inclusion and Accessibility of

Belém, as well as other actions aligned with Agenda 227 – a movement that seeks to place children and adolescents at the center of the construction of a fairer and more sustainable Brazil, based on in the priority guaranteed by article no. 227 of the Federal Constitution.

There is also, in Pará, the proposal to digitize the Child Health Record, using Artificial Intelligence (AI) to centralize health and child development information in a digital system. The idea was inspired by the success of the Covid Bulletin, which used data and projections to guide strategic decisions during the pandemic.

At a national level, a watershed in the scientific field is on the way. This is a level 4 (NB4) biosafety laboratory, which is being built in Campinas (SP), and represents an investment of BRL 1 billion. Today, the country depends on sending samples abroad to study highly dangerous pathogens, such as hemorrhagic viruses. At the same time, the expansion of research notices signals a positive effort to promote scientific studies, especially in the Amazon.

For the panelists, health should be treated as a central topic in climate debates, especially at COP 30, to be held in 2025, in Belém. It is essential to value local knowledge and experiences. Investing in the training of professionals in the region, strengthening data collection and expanding the use of technologies, such as AI, were highlighted as priorities.

Furthermore, it is necessary to integrate public policies adapted to the Amazon and encourage commitments that guarantee integrated actions, continuous evaluation and the strengthening of local capacities, ensuring a lasting legacy for the health and development of the region.



**PANEL****REGIONAL SCENARIOS AND  
IMPACTS: RESILIENCE AND  
ADAPTATION AGENDAS****Stage 3 – Trombetas River**November 7<sup>th</sup>, at 5 PM

**MODERATOR:** Director of Sustainability and Consumer Relations at the National Confederation of Insurance Companies (CNSeg)

**PANELISTS**

**Emílio Lèbre La Rovere:** Professor of the Energy Planning Program (PPE) at UFRJ

**Guilherme Oliveira:** Scientific director of the Vale Institute of Technology (ITV)

**Maria Netto:** Executive Director of The Institute for Climate and Society Institute (ICS)

**Philip Yang:** President of the Institute of Urban Planning and Studies for the Metropolis (URBEM)



*The panel debated the challenges posed by climate change in the Amazon and the opportunities generated. The motto was the need to balance economic progress with environmental conservation, based on a “shock of legality” to face structural problems such as land grabbing and the predatory exploitation of natural resources in the region. Solutions such as valuing the bioeconomy, forest restoration, technological innovation and the creation of effective financial instruments were on the table.*





Artist: Laiza  
Technique: Collage

**T**he Amazon's vulnerabilities have intensified due to the increase in extreme weather events, such as droughts and floods, in addition to historical weaknesses in governance. The inconsistent application of environmental laws has been identified as an obstacle to the implementation of a sustainable development model. Between 2004 and 2012, Brazil achieved an 80% reduction in deforestation, avoiding the emission of 1 billion tons of CO<sub>2</sub> annually. However, crime and informality increased in subsequent years, increasing inspection challenges.

According to the panelists, land regularization and strengthening territorial governance are necessary to attract investments and provide legal security. Implementing consistent public policies, together with the use of technologies for monitoring and inspection, is essential to ensure environmental preservation and, at the same time, encourage the promotion of sustainable economic activities. Furthermore, it is necessary to integrate the application of laws with economic incentives that value the standing forest.



## ECONOMIC MODELS FOR THE FOREST

The bioeconomy was identified as the main bet for the economic and sustainable development of the Amazon. The use of açai waste in the production of cement and the creation of biochar – a material rich in carbon, produced by the pyrolysis of waste – were cited as practical examples of innovation. These actions not only improve soil conservation, but also create products with high added value. However, the lack of land regularization and traceable production chains limits the expansion of these initiatives.

Forest restoration also represents an important strategic opportunity. The region has approximately 40 million hectares of deforested areas that can be used in initiatives that integrate environmental conservation with income generation.

Financial studies show that predatory activities provide an average return of BRL 1,500 per hectare annually, while sustainable practices, such as those promoted by the bioeconomy, can generate up to BRL 5,000 per hectare. The difference reinforces the importance of creating economic incentives to turn these opportunities into reality.

## OVERCOMING THE BARRIERS

Although there are national and international funds, such as the Amazon Fund – aimed at financing preservation and sustainable development projects in the Legal Amazon – and mechanisms such as Reducing Emissions from Deforestation and Forest Degradation (REDD+), these resources still face difficulties in reaching small producers and local communities. Among the suggested solutions are lines of credit









aimed at the specificities of the region, insurance and guarantee funds.

One example of these barriers are tree planting projects, which face difficulties in accessing financing due to the long payback period, exceeding seven years, and the risk of fires. An inspiration cited is the insurance industry, which uses financial guarantee funds and technological guarantees. The idea is to diversify insurance modalities to reduce financial risk and, thus, mobilize capital in the conditions and formats necessary to promote sustainability.

In addition to guarantee funds as an alternative to mitigate risks for investors and facilitate access to credit, the possibility of

hybrid financing (blended finance) was highlighted, combining private and public capital to support long-term initiatives. Payment for Environmental Services (PSA) was also presented as an alternative to remunerate local communities for the conservation of ecosystems and as a stimulus for more sustainable productive activities.

The importance of traceability and certification systems to increase the credibility of Amazonian products in international markets was also highlighted. The creation of national certification standards aligned with global practices is a way to avoid dependence on external systems and reinforce Brazil's position in the international market. However, the credibility of these systems needs to be built to attract new investors and markets.

The lack of detailed local data is a barrier to formulating public policies and advancing sustainable projects. Although satellite monitoring is widely used, it is not a substitute for collecting on-the-ground information needed to calculate carbon potential and better understand biodiversity. Investments in monitoring and information integration technologies have been suggested as ways to overcome these gaps and support evidence-based decisions.

Despite the challenges, a sustainable development model for the Amazon is possible and viable. However, it requires political coordination, robust financial instruments and innovative strategies that combine the guarantee of a standing forest with the economic development of the region. For this to happen, it is necessary to overcome institutional obstacles, value the economic potential and biodiversity of the region and ensure that the benefits of forest conservation policies reach directly to local populations.





**PANELS - 11/7**

**STAGE 4**  
**TOCANTINS RIVER**



## PANEL

# THE CHALLENGES OF THE NEW ECONOMIES OF THE AMAZON: FINANCIAL PRODUCTS AND GOVERNANCE

**Stage 4 – Tocantins River**November 7<sup>th</sup>, at 9 AM**MODERATOR**

**Marcelo de Camargo Furtado:** Head of Sustainability at Itaúsa and executive director of Itaúsa Institute

**PANELISTS**

**Denis Benchimol Minev:** CEO of Bemol and co-founder of the Foundation for Amazon Sustainability, the Amazon Museum and the Partnership Platform for the Amazon (PPA)

**Francisco de Assis Costa:** Full professor at the Federal University of Pará at the The Amazon High Studies Nucleus (NAEA) and at the Postgraduate Program in Economics (UFPA)

**Juliano Assunção:** Executive Director of the Climate Policy Initiative (CPI/PUC-Rio)

**Luciana Nicola:** Director of Institutional Relations and Sustainability at Itaú Unibanco

**Thais Ferraz:** Program Director of the Climate and Society Institute (ICS)



*The panel addressed investments and governance in three scenarios. One of them is the urban Amazon, with its logistics and productive integration challenges for young people. Another, the forestry Amazon, dealing with the bioeconomy of products compatible with forests and the environmental impacts of infrastructure projects. And the third, the deforested Amazon, a natural destination for investments in forest restoration, which appears to be a new vocation for the Amazon region. The need for financial and technological innovations was a common element in virtually all approaches.*







Artist: Renata Segtowitz  
Technique: Digital illustration

## IN THE URBAN AMAZON

The urban Amazon, which today is home to around three-quarters of the Amazonian population, is the economic engine of the region. It is where the jobs and activities that generate income and well-being for the population are located. In recent years, this segment has presented an explosive combination of three elements: a demographic dividend in relation to the rest of the country; a large population of young people that is still growing; and a gap in

opportunities for the productive insertion of young people in the private sector. The scenario generates a certain dismay as it encourages the growth of crime.

Added to this situation are other layers of challenges. There is an infrastructure deficit, especially in the sanitation and connectivity sectors – it is known that, in the 21st century, digital solutions are fundamental for the sustainable development of the region. The formation of human capital is well below the ideal for the region to be-



come competitive in the digital economy scenario – even with cutting-edge training, cities need to be attractive enough to retain the most qualified staff. And there is still persistent informality in all cities, a situation that is aggravated by the problem of land regularization in the region and drives away investors from local ventures. This is the perfect environment for loan sharks, who make unsecured loans for illegal gold mining recruiters and organized crime.

Facing the challenges presented requires a transversal component to the issues highlighted in the panel: when outlining possible solutions, seek to understand the region's long historical process. After all, there are around three centuries of interaction between forest and economy that need to be studied and understood before decision-making.

As proposals, the panel defended a greater connection between Amazonian cities and forests, in order to increase the sense of belonging and appreciation of the region, especially among young people. To achieve this, there must investment in

strengthening civil society, increasing its influence in global negotiations, national and local policies. Furthermore, more innovation should be sought in the financial instruments available for new businesses.

An example of an innovative financial instrument presented was the initiative which recently brought together three large Brazilian banks – Santander, Bradesco and Itaú – in an effort focused on business in the Amazon, originating the Urban Amazon Plan. However, there was an understanding among the panelists that banks could dedicate themselves more to the region, for example, in offering patient capital, which offers a rate of return more in line with bioeconomy businesses. The Eco Invest Brasil Program gained prominence, a line that includes blended finance (hybrid financing that combines private capital with philanthropic or public resources). The line was recently launched by the federal government, within the scope of the National Fund on Climate Change, for banks interested in opening financing for investments in Amazon cities.





## IN THE AMAZON RAINFOREST

The Amazon rainforest axis dealt with business opportunities and investments in forests. The perception we have today is that the standing forest is worth less than a deforested productive area. However, this is still a field of great opportunities. The philanthropic sector, for example, maintains two main fronts to increase the value of forested areas: it brings resources to the region, paying people who are helping to keep the forest standing, and it encourages businesses that do not deforest, such as bioeconomy and ecological tourism.

The Climate and Society Institute (iCS) has proposals with the federal government to create a fundraising fund in order to remunerate communities that conserve forests, and structure bioeconomy chains, following the example of the Safra Plan in relation to small farmers. This latest proposal has come up against the problem of the lack of land regularization that affects many Amazonian landowners, a major barrier to the arrival of financiers in the region.

To grant credit, banks have their environmental, social and now climate checklists. This is positive on the one hand, because it prevents credit from generating negative externalities, which minimizes reputational risks for financial institutions. On the other hand, restrictions prevent this credit from reaching a large portion of the population. Most large banks have mechanisms, such as microcredit and PRONAF (National Program to Strengthen Family Farming), but nothing that takes local land characteristics into account.

For credit to work, that is, for it to actually stimulate the bioeconomy, it is necessary to consider the non-existence of land titles in these cases. It is a huge challenge and only the public authorities have the tools to

solve it. But this does not stop the debate about the dependence on public instruments to conduct business. The private sector also needs to reach the Amazon forest, seeking a better calibration between risks versus costs.

An achievement achieved in recent years that benefits the forestry Amazon was the improvement of the technical capacity to understand the value of forestry services. For example, today it is possible to measure the importance of “flying rivers” for the generation of electrical energy in an extremely precise way. So precise that it is possible to assess the importance of a certain area of the forest for generating energy in a specific hydroelectric plant. By using this type of arrangement, it will be possible to more assertively value environmental services, and even think about associated business structures.

Everything we want, whether through the opening of new lines of credit or technological improvements, is to make extractivism more productive. To this end, the panel presented examples of innovation for the forest, including: quality education using artificial intelligence, the same goes for the health sector; increasing nut productivity, investing in the use of waste (the production of one ton of nuts generates 1.4 tonnes of waste) to produce plastics or make protein isolate; and innovation in logistics to overcome the challenge of long distances and low population density.

Currently there are already current investments, not in roads that cause more deforestation, but in flying boats, in autonomous canoes (like autonomous cars in the United States) and in hovercraft, a type of boat that glides over the mud in the same way as on water, ideal for dry periods when the flow of rivers in the region decreases.





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## IN THE DEFORESTED AMAZON

This axis can be divided into two: in deforested areas and in areas under deforestation pressure, that is, in the latter case the problems include land grabbing, illegal logging, among other conflicts. In general, deforestation pressure occurs in public forests that have not yet been designated as a Conservation Unit or Indigenous Land.

Deforested areas are seen as an extraordinary environment for investments in highly productive agriculture. In total, the deforested Amazon amounts to around 40 million hectares of land, which would fit a Spain and an Italy and everything that these two countries can produce from their agricultural models.

The public sector would have at least two roles to play there to attract investors: creating an infrastructure for production flow, allowing connection with the market

and enabling the return on investments in restoration; and promote land regularization of areas to be restored – although occupied for decades, the lack of land title and adequate governance generates uncertainty and inhibits investment. If regularized, these lands could even become a locus for the scale carbon market.

Among the business opportunities for the Amazon, there are those who consider agroforestry restoration to be the main one, as it generates a high positive impact in the environmental, economic and social spheres. Investment in areas under pressure from deforestation does not generate as much enthusiasm. It is believed that land regularization in these cases could encourage even more deforestation, which brings great insecurity, both in relation to the return on investments and in relation to reputational damage. After all, good companies and good investors do not want to associate their image with areas with deforestation.



Photo: Adobe Stock

## PANEL

# THE CHALLENGES OF PUBLIC ENVIRONMENTAL MANAGEMENT IN BRAZIL

**Stage 4 – Tocantins River**  
November 7<sup>th</sup>, at 10:30 AM

**MODERATOR**

**Izabella Teixeira:** former Minister of the Environment, co-chair of the International Resource Panel of the United Nations Environment Program (IRP-UNEP), member of the UN Economic and Social Council, advisor emeritus of the Brazilian Center for International Relations (CEBRI) and senior fellow at the Arapyaú Institute

**José Carlos Carvalho:** Former Minister of the Environment and managing partner of the consultancy Seiva

**PANELISTS**

**Eduardo Martins:** Former president of the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and director of the Associated Group for Sustainable Agriculture (GAAS)

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*The need for greater alignment of environmental governance with current demands occupied the center of debate, with panelists recognized for their history in federal management. They warned of the risks of suffocating the environmental agenda with the current priority for climate demands and emphasized that the fight against deforestation needs to go beyond command and control. Structuring measures are needed that create economic alternatives without devastating the forest. The challenge requires dialogue with economic policy, but there is a political crisis that makes this interconnection difficult.*

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**T**he climate debate cannot imprison the country's broader environmental governance agenda, which includes water, pollution and biodiversity. There is the challenge of promoting the sustainable use of natural resources and, to this end, it is essential that environmental policy interact with economic policy. However, the difficulty in implementing actions highlights the situation of a political crisis that requires changes in management models. With panelists who in recent history have occupied decision-making spaces in Brazilian environ-

mental governance, the debate addressed the climate issue as a trigger for reorganizing the management of the sector in the country.

A more mature dialogue on this topic is seen as key for Brazil to truly be a provider of solutions for the planet. Faced with the urgency of a new, comprehensive and integrative paradigm, there is the challenge of overcoming an already worn and outdated political fabric, with a question: how will the past meet the future, through new generations of leaders who work in environmental management?

The panel promoted a historical review of environmental management in the country, highlighting critical points of attention, such as the recurring command and control policy in the fight against deforestation. According to experts, this strategy cannot be permanent over time. It has the power to stop the predatory use of natural resources through inspection and punitive measures, but not to promote sustainable use in a structuring and lasting way – an issue that touches the boundaries of tax, fiscal and credit policies, for example.

To date, the Amazon has not been able to include the territorial dimension as a factor in the effectiveness of public policies, taking into account asymmetries in Brazilian regions. Furthermore, the difficulty of convergence, with increased political polarization, makes the space for action very restricted. The situation is critical with climate change, which only worsens management problems. There is a great lack of strategic vision, including in cases where the country has leadership, such as agriculture.

In the debate on the need for a review of environmental management and its institutional frameworks, the legacy of geographer Bertha Becker for development strategies in the Amazon and zoning initiatives, now overlooked, according to the panelists, were highlighted.

One of the milestones was the Our Nature Program, which in the 1990s placed the Amazon on the national agenda. Despite advances in the past, Brazil – trapped in command and control – lost timing, not only against deforestation, but against organized crime, in the context of vulnerable territories.

Given this, Brazil needs to build public policy mechanisms capable of changing the level of environmental management. Currently, there is a new element to be discussed: the “overdose” of attention to climate change. Without minimizing the problem, the panel highlighted that environmental issues that

are also emergency, such as sea pollution, are mainly associated with production and consumption patterns that need to change – and not with the climate crisis.

According to the panelists, if the country wants zero deforestation, it will need to combine the strategy with economic policies and social protection networks, but there is a lack of instruments in environmental management for this.

The debaters warned about the lack of governance necessary to guarantee the State’s presence in the Amazon. There are risks of a rhetorical debate, with actions that do not promote change: for example, while IBAMA works to control deforestation, other sectors of the government finance the destruction. The pressure is not just management, but regulatory, and requires a greater level of security and planning about where we want to go and how to respond to crises. In this scenario, environmental management needs to anticipate and indicate how some political choices can be harmful to the environment.

The environmental licensing scenario illustrates the need for disruption in the sector’s agenda. The licensing process should be less notarial and used to improve the country’s environmental quality. The assessment of impacts, for example, must show the socio-environmental cost of the projects, prior to the works, guiding decisions.

The world is “updating” and the environmental discussion today has two major forces: the debate about nature and climate change.

The use of natural resources, new economies – such as the bioeconomy – and other current dynamics are part of public environmental governance in Brazil. This is a development agenda, alongside the climate issue. But also, a political and geopolitical agenda in the world. In short, environmental management needs to move to a more adult stage in the contemporary world.





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## PANEL

# THE CHALLENGES OF THE NEW ECONOMIES OF THE AMAZON: BIOTECHNOLOGY

**Stage 4 – Tocantins River**  
November 7<sup>th</sup>, at 2 PM

**MODERATOR**

**Renata Piazzon:** General director of the Arapyaú Institute

**Rodrigo Justus de Brito:** Legal and environmental consultant at the Brazilian Confederation of Agriculture and Livestock (CNA)

**PANELISTS**

**Adriana Diaféria Marwell:** Executive Vice President of the FarmaBrasil Group

**Aryane Martins:** Sustainable Development Manager at the Brazilian Association of the Toiletries, Perfumery and Cosmetics Industry (ABIHPEC)

**Priscila Matta:** Senior Sustainability Manager Natura&Co LATAM

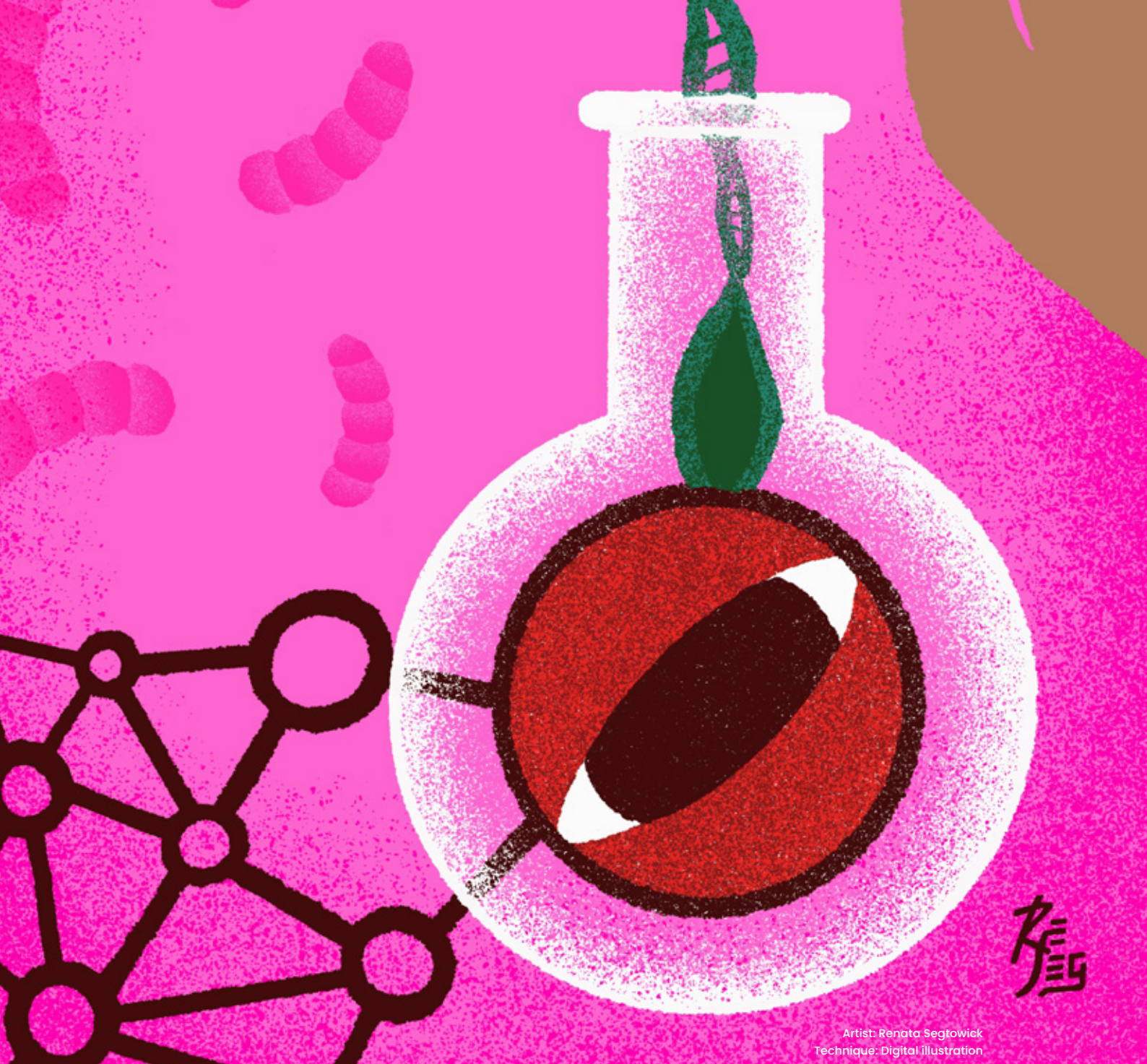
**Thiago Falda:** Executive President of the Brazilian Bioinnovation Association (ABBI)

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*How to unlock innovations and uses of biotechnology in the low-carbon economy? How to bring academia and market demands closer together? What is the scenario of opportunities presented to the country in this strategic segment of the bioeconomy? With the participation of the agricultural, pharmaceutical and cosmetics sectors, the panel presented answers and references of initiatives that inspire new actions to promote an economy based on standing forests, with benefit sharing for traditional communities. Among the challenges, the need for a greater flow of investments in science and technology in the Amazon stands out.*

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Artist: Renata Segtowitz  
Technique: Digital illustration

**T**he Amazon can be seen as “a public good of biological assets capable of creating innovative high-value products, services and platforms through the combination of advanced biological and digital means and the technologies of the fourth industrial revolution”.

The theme mobilized the debate on the panel, which brought together voices from civil society, philanthropy, agriculture and the cosmetics and medicine industry, with analyzes of challenges and news.

By having legislation that is a global reference for access to genetic heritage in accordance with the United Nations Convention on Biological Diversity, Brazil has a high potential to have biotechnology as a pillar of sustainable development, with the creation of innovative businesses and benefits for populations that hold traditional knowledge.

But expectations come up against investments in Science, Technology and Innovation (S&IT) in the Amazon: despite



corresponding to 60% of the national territory and housing 20% of the planet's biodiversity, the region receives less than 1% of the resources contributed to research in the country.

Biotechnology is key in prospecting microorganisms and developing new bioeconomy products, on a larger scale, in the logic of uniting industry and traditional forest knowledge. For FarmaBrasil Group, a private association that covers the phar-





maceutical sector, there is a large window of opportunity, but important steps are needed in terms of public promotion policies and partnerships.

There is a lack of better understanding of the differences between the industry's perspective and that of supplier communities, but the current stage of maturity, with the pioneering nature of Brazilian legislation in the sector (Law No. 13,123/2015), can make a difference in resolving the gaps.

## VALUING HUMAN CAPITAL

Advanced technologies in cosmetics, food, new materials, medicines and chemicals depend on investments in research. A study by the Arapyaú Institute, in partnership with the Agni Institute, defined levers to reverse the situation, such as the valorization of human capital, expansion of biobusinesses and productive inclusion in the bioeconomy.

Innovations, however, only make sense if they bring sustainability, circularity and regenerative practices, with added value and greater income. In the experience of the company Natura, sustainable use involves connection with the territory, science of traditional peoples and biotechnology for new product applications. The ingredients generate benefit sharing linked to traditional knowledge.

In the Amazon, biotechnology requires the perspective of cooperation in innovation hubs, enhanced by public policies. Today Brazil is the third largest consumer market for cosmetic products in the world, behind the United States and China. Moreover, it is the third largest exporter, with products in more than 170 countries. The use of bioactives is increasing in formulations along with the need to value supply chains at the base.

## COMPETITIVENESS

In agriculture and livestock, biotechnology represents a path of no return due to its importance in the challenge of increasing food production without deforestation. Today, agriculture occupies an area six times larger than it did 45 years ago in the world, and – without innovations to produce more in a smaller area – the impacts would have been more intense. Plant genetic improvement, pest control and lower water consumption, for example, come from biotechnology.

Biotechnology also allows the production of molecules that replace fossil materials, reducing carbon emissions. The problem is that the technologies are more expensive than conventional technologies and do not provide different functionalities. To make biotechnology competitive, greater scale, lower costs, legal certainty and inclusion of the agenda as State policy are necessary.

An example of the challenges of adding value is glycerin, a residue from biodiesel production that in 2024 totaled 500 thousand tons in Brazil – 93% exported at USD 0.22 per kilo for processing in China. The country imports the product back, as raw material for cosmetics, for USD 3.63 per kilo.

Every frontier of knowledge brings challenges, such as issues of scale, logistics and costs. In the case of biotechnology – despite advanced legislation – there is also a regulatory obstacle, with a pile of regulations that not only result in greater costs, but also lead to legal uncertainty. But, in the opinion of the panelists, the country is fully capable of resolving bottlenecks and improving paths

## PANEL

**FOREST RESTORATION**THE ROLE IN THE AMAZON ECONOMY  
AND IN NEUTRALIZING EMISSIONS**Stage 4 – Tocantins River**November 7<sup>th</sup>, at 3:30 PM**MODERATOR**

**Garo Joseph Batmanian:** General Director of the Brazilian Forest Service (SFB) of the Ministry of Environment and Climate Change.

**Gregory Maitre:** CEO Brazil at Morfo

**Luis Piva:** Manager of the Standing Forest Program at the Sustainable Amazon Foundation (FAS)

**PANELISTS**

**Beto Verissimo:** Co-founder of the Amazon Institute of Man and Environment (IMAZON), director of the Amazon Entrepreneurship Center, affiliated academic at Princeton University, director of the Amazon 2030 initiative and director of Brazil's Social Progress (IPS) initiative.

**Patrícia Fagundes Daros:** Director of Nature-Based Solutions at Vale

**Jafé Ferreira de Souza:** Member of the Sateré-Mawé General Council (CGTSM), of the Kapi Association, lawyer and master's degree student in Law at PPGD/UFSC.

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*Forest restoration was debated as a strategic pillar for neutralizing greenhouse gas emissions and strengthening the Amazon economy. The panel highlighted the recovery of degraded areas as an opportunity to generate jobs, develop the bioeconomy and contribute to global climate goals. However, challenges such as carbon market regulation, technical training and inclusion of traditional communities need to be overcome to enable the transformative potential of forest restoration in the region.*

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Artist: Renata Segtowitz  
Technique: Digital Illustration

**F**orest restoration was presented as a central strategy for the sustainable development of the Amazon, integrating environmental conservation, economic growth and reduction of carbon emissions. According to the researchers present, the reforestation of degraded areas offers benefits ranging from carbon sequestration to the generation of economic alternatives for local communities, promoting a bioeconomy based on native products, such as cocoa and mahogany. Furthermore, strengthening the carbon

market was highlighted as essential to position Brazil as a global leader in environmental restoration.

However, implementing this agenda faces significant challenges, panelists noted. They cited that the lack of regulation for the carbon market in Brazil, for example, makes access to international investments and competitive carbon pricing difficult (the project that regulates the market was approved in the Chamber of Deputies on November 19, 2024). Technical obstacles,



such as the lack of qualified labor and appropriate technologies, exacerbate the problem, limiting the scope and effectiveness of restoration initiatives.

Another aspect highlighted was the need for an inclusive approach that respects the rights of indigenous and traditional communities. These populations, which occupy a large part of the priority areas for restoration, need to be actively engaged in projects, both to ensure compliance with guidelines such as prior consultation, and to ensure that economic benefits are shared fairly.

The panelists also discussed the importance of reconciling reforestation efforts with the fight against deforestation. Without controlling the advance of deforestation, restoration actions will not be sufficient to achieve climate goals and protect the Amazon's natural resources.

To overcome these challenges, several recommendations were presented. The

structuring of a robust and competitive carbon market was considered a priority, including clear regulations and incentives for carbon sequestration projects. Adequate pricing is seen as a way to attract investment and encourage sustainable land use.

Labor training and the development of regional nurseries for native species were proposed as practical actions to boost restoration. Technologies such as drones and Artificial Intelligence were highlighted as tools that can increase the efficiency of monitoring reforested areas and optimize the choice of species and planting techniques.

The inclusion of local and traditional communities was highlighted as a fundamental principle. Ensuring that these populations actively participate in decisions and receive direct benefits from projects is essential for the viability and legitimacy of initiatives.







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## PANEL

**FOREST RESTORATION****HOW FOOD PRODUCTION  
CAN GUARANTEE AUTONOMY  
AND ENVIRONMENTAL SECURITY  
IN THE AMAZON****Stage 4 – Tocantins River**November 7<sup>th</sup>, at 5 PM**MODERATOR**

**Kátia Abreu:** former senator, former minister of Agriculture, Livestock and Supply and CEO of BRZ Consulting

**PANELISTS**

**Adriano Espescht:** President of Potássio do Brasil

**Flávio Inoue:** Executive President of Grão Pará Bioenergia

**Walkymario Lemos:** General Manager of Embrapa Eastern Amazon

**Liége Correia:** Sustainability Director at JBS Brasil

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*The panel discussed how sustainable agricultural practices and technological innovations can contribute to food and environmental security in the Amazon, and thus promote economic development and forest conservation. Challenges related to infrastructure, bovine traceability and local production of agricultural inputs were highlighted, in addition to solutions that integrate low environmental impact agriculture, biofuels and recovery of degraded areas. The synergy between environmental sustainability and food autonomy was highlighted as central to the region's agenda.*

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Artist: Renata Segtowitz  
Technique: Digital illustration

**T**he Amazon faces the challenge of balancing increased food production with the conservation of its native areas. Therefore, the recovery of degraded areas was presented as a practical and urgent solution, considering that, in October 2024 alone, the region had registered a degraded area of 6,623 km<sup>2</sup>, 43% of which was in Pará, the host state of COP 30.

The data comes from the Deforestation Alert System (SAD) of the Amazon Institute for Man and Environment (IMAZON).

To make recovery possible, technologies developed by the Brazilian Agriculture Research Corporation (Embrapa) make it possible to transform these lands into productive zones, without competing with the forest, directly benefiting vulnerable communities and family farmers. For the panelists, this reinforces the role of agriculture as a strategic factor in food security, without compromising environmental conservation.

In relation to the livestock sector, the panel highlighted the importance of livestock



traceability to meet global market demands for transparency and sustainability. The implementation of a herd tracking system by 2025, promised by the government of Pará, was highlighted as an essential measure to ensure that the production chain is free from links to deforestation.

Furthermore, cattle confinement was identified as an effective practice to reduce

pressure on forest areas, while allowing methane capture, contributing to the generation of biogas and economic diversification of production.

Another critical point is the dependence on imported inputs, such as fertilizers. The local production project in Autazes (AM) was presented as a solution capable of reducing carbon emissions associated with the transport of foreign fertilizers, while strengthening agricultural self-sufficiency. This initiative represents an opportunity to transform a logistical bottleneck into a driver of regional development.

The panelists also presented the diversification of the energy matrix as a central proposal. The use of biofuels, such as palm biodiesel and cassava derivatives, was highlighted as a clean and renewable alternative, aligned with the needs of the Amazon. The climate and abundant land in the region offer favorable conditions to expand this production, promoting energy security and the creation of new employment and income opportunities. The success of these strategies, however, depends on investments in infrastructure and technical training.

Finally, strengthening family farming was highlighted as essential to consolidate a more sustainable production chain. According to the debaters, public policies that offer financial and technical support to small producers can increase food production and ensure that this expansion occurs in harmony with the preservation of the forest.

In this sense, the adoption of low-carbon agricultural practices and the encouragement of the use of advanced technologies, as in the case of cassava production in Pará, were mentioned as effective ways of increasing productivity and reducing dependence on external inputs.





**PANELS - 11/7**

**STAGE 5**  
**XINGU RIVER**



## PANEL

# ROLE OF THE POWERS OF THE UNION AND DIFFERENT LEVELS OF GOVERNMENT IN THE AGENDA FOR NEW ECONOMIES IN THE AMAZON

**Stage 5 – Xingu River**

November 7<sup>th</sup>, at 9 AM

**MODERATOR**

**Marcello Silva do Amaral Brito:** Executive Secretary of the Legal Amazon Consortium

**PANELISTS**

**Josemira Gadelha:** Mayor of Canaã dos Carajás

**Keniston de Jesus Rêgo Braga:** Federal Deputy

**Maria Nice Machado:** Secretary of Women of the National Council of Extractivist Populations (CNS)

**Mônica Pires Sodré:** Senior Fellow and political scientist at the Brazilian Center for International Relations (CEBRI)

**Maurício Barata Soares Coelho Rangel:** Chief of Staff of the 4th Naval District Command

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*The union between the political, private spheres and civil society must pave the way to promote the valorization of the “Amazons”, with a focus on preserving the environment, developing the bioeconomy and strengthening infrastructure and tourism services. The partnership between municipalities, states and the Union was highlighted as fundamental to achieving more coordinated and efficient development, together with the people of the region. This must be done by developing a solid agenda, to be implemented over the next 10 years, starting with COP 30.*

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**G**overnment integration was highlighted as essential to overcome challenges and articulate public policies that are more effective. For the debaters, powers must be connected and integrated, but endowed with human capital, taking into account people's needs, especially those who live in less favored areas.

The partnership between municipalities, states and the Union was highlighted as fundamental to achieving more coordinated and efficient development, together

with the people of the region. This will make it possible to see the results of these practices in a more equal way. Municipalities were identified as key players in the implementation of local policies, such as investments in infrastructure, housing, health and education – considering that 85% of the Amazonian population lives in urban areas, 35% in the capitals. The region has 17 cities with more than 100 thousand inhabitants.

Another highlight regarding public authorities is the formation of an agenda focused





on more elaborate discussions on the region's development, mainly following the COP 30 in Belém. Today, Brazil is the largest "life-producing" country on the planet, but natural capital is threatened due to the climate – that is, what is available today may not be available tomorrow.

The global meeting is obliged to think about ways to boost the development of regions through some commitments, such as Nationally Determined Contributions (NDCs), which formed a commitment to reduce the country's net greenhouse gas emissions by 59% to 67% by 2035. This should be the next flag not only for those who live in the different Amazons (from the most conserved areas to urban areas), but for all countries committed to protecting the environment and climate.

Civil society plays a central role in promoting solutions that respect the diversity and reality of local populations. The need to include indigenous peoples, quilombolas, urban and rural populations, as well as institutions such as universities, was emphasized.

## INFRASTRUCTURE

For the region to advance economically there must be adequate infrastructure involving road and waterway transport. A highlighted point was the navigability of the rivers of the Amazon and the difficulty of transportation. An example mentioned was the Amazon river, which sees a decrease in navigability in the region. Due to the deposit of sediment at the mouth of the river, the navigation depth, at the height of the municipality of Óbidos, in Pará, increased from 120 to 12 meters, which requires greater investment in tidal studies and maritime technology. Today the greatest difficulties are due



to the large encompassing area along the course of the river, much larger, for example, than the region of Santos (SP), Guanabara Bay, in Rio de Janeiro, and Todos os Santos Bay, in Bahia.

Even nowadays, a way is being sought to dispose of manganese from the Serra do

Navio mine, such is the difficulty of disposal – even with the support of specific measures, such as the Barra Norte project, coordinated by the 4th Naval District, in partnership with governments and private bodies, which works to provide greater efficiency in the logistics of transporting economic production in the region.

## ECONOMIC ACTIVITIES

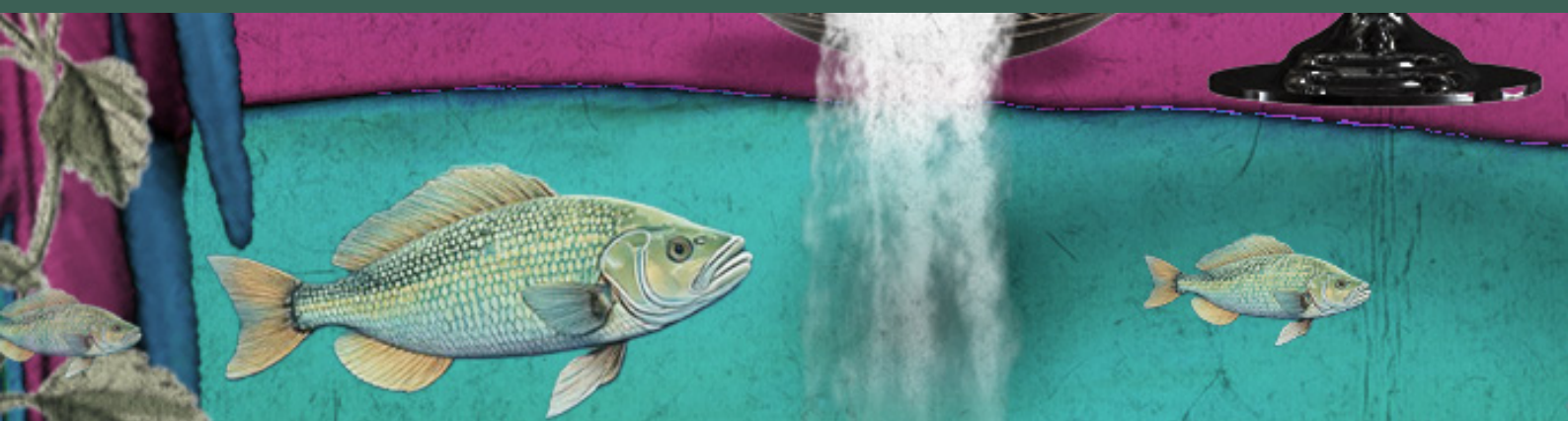
The business sector was called upon to act in a more responsible and sustainable manner, especially in activities such as mining and exploration of natural resources. The adoption of clean technologies and the reduction of environmental impact were highlighted as priorities. Companies must also collaborate in strengthening the local economy, integrating communities into their production chains and promoting practices that respect biodiversity.

One of the examples came from Vale's Bacaba Project, carried out in the municipality of Canaã dos Carajás in Pará, which absorbs part of the resources allocated to the municipality, arising from mineral exploration, for the construction of schools, development of ecotourism, investments in health, education and infrastructure. Canaã dos Carajás stands out in this aspect thanks to its proximity to other spheres of government. Thus, the Municipal Sustainable Development Fund was created, a reserve of 5% of what

is collected from mineral compensation, to leverage sustainable development actions. Another example mentioned was the project to create an Agroindustrial Hub, thinking about rural people, rural production and economic sustainability.

Strengthening family farming and the bioeconomy was highlighted as essential to create economic alternatives aligned with environmental conservation. In this field, challenges related to transport and logistics were presented, so that the bioeconomy can take greater steps, generating wealth consistent with the region's potential.

Sustainable tourism, still little explored in most regions, was widely debated as a viable alternative to promote regional development, combining environmental conservation and income generation for communities. Projects that integrate local training and protection of natural areas can attract visitors in a responsible way.



## PANEL

# DEFENSE AND SOVEREIGNTY

## NEW TECHNOLOGIES AND DEFENSE OF TERRITORIES

**Stage 5 – Xingu River**November 7<sup>th</sup>, at 10:30 AM**MODERATOR**

**Mariana Plum:** Co-founder and executive director of the Sovereignty and Climate Center

**PANELISTS**

**Cisnea Menezes Basilio:** Coordinator of the State Development and Integration Center for the Amazonas Border Strip (NIFFAM); Entity: State Secretariat for Economic Development, Science, Technology and Innovation (SEDECTI)

**Júlio César Belaguarda Nagy de Oliveira:** Head of the Operations Coordination Center of the Northern Military Command

**Maria Leonice Tupari:** Indigenous leader of the Amazon biome, executive coordinator of the Association of Indigenous Warriors of Rondônia (AGIR), manager of TECË (initiative of Indigenous Women Artisans of Rondônia) and History undergraduate

**Rubens Barbosa:** President of the Institute of International Relations and Foreign Trade (IRICE) and former Brazilian ambassador in London and Washington

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*Security and sovereignty challenges in the Amazon were discussed, highlighting the impact of organized crime, environmental degradation and the effects of climate change on local communities. The need for public policies that combine new technologies with traditional knowledge was emphasized, as well as the strengthening of command and control operations, and international cooperation with greater protagonism for Brazil, to guarantee territorial protection and sustainable development.*

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Artista: Rakel Caminha  
Técnica: Fotomontagem digital

**T**he panel addressed the growing importance of territorial defense in the Amazon, highlighting how the region faces complex threats, including organized crime and illegal deforestation, factors that compromise sovereignty and national security. According to the panelists, the region's extensive and difficult-to-access geography, combined with the lack of adequate infrastructure, creates a favorable scenario for illicit activities, especially in border areas.

Climate change was identified as aggravating existing problems, due to the greater occurrence of extreme events, such as droughts and floods, which intensify the vulnerability of local communities.

Therefore, the need for an integrated response from the Armed Forces, Civil Defense and other government bodies was widely highlighted, with a focus on disaster mitigation and humanitarian support.





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It was also highlighted that the integration of innovative technologies, such as remote monitoring systems and Artificial Intelligence, with the traditional knowledge of indigenous and riverside communities, can strengthen environmental protection and promote sustainable economic alternatives. The debaters highlighted the connection between ancestral knowledge and technological innovation as a strategic opportunity to promote community resilience and preserve local biodiversity.

Furthermore, the panelists emphasized the importance of strengthening command and control policies in strategic areas, especially on the border, and of ensuring that these policies respect the cultural and social specificities of Amazonian populations. The need for prior consultations and valuing the role of local leaders were highlighted as fundamental principles for inclusive and effective territorial planning.

Another key point was international cooperation within the scope of the Amazon Cooperation Treaty Organization (ACTO). It was recommended that Brazil assume a leadership position in these discussions, promoting a model of sustainable development that integrates environmental conservation and territorial security. This collaboration was seen as essential to tackling transnational challenges such as drug trafficking and illegal deforestation.

Finally, greater preparation of defense institutions was proposed to deal with the impacts of climate change, including the intensification of humanitarian aid actions and the expansion of state presence in vulnerable regions. This approach was considered crucial to guarantee the sovereignty and security of the Amazon in the face of the climate crisis.



## PANEL

# AMAZON AND LOGISTICS AND INFRASTRUCTURE CHALLENGES

**Stage 5 – Xingu River**  
November 7<sup>th</sup>, at 2 PM

**MODERATOR**

**Alex Carvalho:** Engineer and entrepreneur

**PANELISTS**

**Clara Assumpção:** Master specialist in Sustainable Territorial Development and technical coordinator of the Practical Guide for Social Urbanism at the Center for City Studies at Insper and Diagonal

**Ellen Regina Capistrano Martins:** Director of Governance and Sustainability of the National Association of Rail Transporters (ANTF)

**José Ricardo Vendramin Nunes:** General of the Army - Military Commander of the North

**Luiz Cláudio Campos:** EY Government and Infrastructure Lead Partner

**Paulo Roberto Ribeiro Pinto:** CEO of Norte Energia, concessionaire of the Belo Monte Hydroelectric Plant

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*Logistics solutions in the Amazon region involve integration between modes, including through the creation of hubs, and greater use of railways and waterways, as they have high transport capacity with lower costs and carbon emissions. In urban areas, the improvement of subways and urban trains will contribute to more efficient and less polluting mobility. In the region that suffers from a lack of sanitation and housing, the creation of public-private partnerships was highlighted as a way to contribute to the development of infrastructure and public services.*

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Artista: Rakei Caminha  
Técnica: Fotomontagem digital

**A** more sustainable infrastructure will be crucial for the development of the Amazon. The construction of efficient transport modes, such as railways and waterways, favors the reduction of emissions and the increase in logistics capacity.

For the debaters, modes such as railways and waterways should be the most used alternatives, as they have high transport capacity and are more sustainable, as evidenced by carbon emission data: in 2022, cargo and passenger transport

generated more than 210 million tons of CO<sub>2</sub>, with 92% coming from highways, 4% from air transport, 1.7% from water transport and 1.41% from railways. Replacing just 1% of road transport with railways could avoid the emission of more than 2 million tons of CO<sub>2</sub> per year.

Today, the transport matrix in Brazil is predominantly road, with 67.6% followed by 21.6% by railways and only 10% by air and waterways.



The integration of forms of transport, therefore, will be essential for the development of cities and for an efficient logistics system in a country with continental dimensions like Brazil, contributing to boosting urban development and reducing costs in sectors such as health, by reducing road accidents – while the expansion of highways must consider environmental impacts, such as deforestation.

Added to this is the modernization of transport and the use of biofuels as solutions that reduce emissions and improve efficiency in the transport of cargo and people. Investments in infrastructure must be planned carefully to minimize negative impacts, while it is up to regulation to en-

sure that private capital is applied in a fair and sustainable way.

The railway mode was identified as a solution with great capacity and safety, especially for cargo transport, being fundamental in reducing costs and emissions. In this context, Ferrogrão railway was mentioned, an important project for transporting production in the Amazon and for the arrival of inputs that help the regional economy.

Innovations such as hybrid locomotives, the use of biodiesel, ammonia and green hydrogen are under development, improving the sustainability of the sector. The improvement of subways and urban trains will also play an important role, contributing to more efficient and less polluting mobility.

The panelists believe that the modernization and expansion of the railway network, with electrification and the use of hybrid locomotives and biofuels, will increase efficiency in freight transport, integrating isolated regions through waterways that take advantage of the vast river potential and facilitate investment in technologies clean.

In this model, it is also necessary to create regional logistics hubs that connect highways, railways and waterways and thus improve the flow of products and expand access to markets, both local and international.

Additionally, advanced technologies for real-time monitoring of transportation routes can reduce losses and costs while strengthening logistics efficiency. Sustainable mobility projects were mentioned, such as buses and electric catamarans. Developed by the Federal University of Western Pará (UFOPA), they are capable of reducing emissions and improving urban transport in cities such as Belém and Manaus, the region's large metropolises.





## LOCAL DEVELOPMENT

The region's development should not be seen as a one-off project, but as part of a comprehensive plan that involves local communities and meets their needs. The example cited in the panel was the Belo Monte Plant, which cost BRL 40 billion and, according to the concessionaire, has been playing an important role in the social and environmental development of the region, through compensatory measures for the installation of the plant. Seven billion reais were invested in socio-environmental issues, with emphasis on sanitation in Altamira, where 90% of the city now has access to drinking water and sewage treatment.

The installation of infrastructure in indigenous and riverside communities was also promoted, in addition to the creation of new neighborhoods to house around 20 thousand people. Today, the plant employs around 1,700 people, many of them from the region, including women in leadership positions. In addition, governments are investing in social infrastructure, such as public lighting, with a focus on reducing crime, and basic sanitation.

The lack of basic sanitation is one of the biggest challenges in the region, where less than 60% of the Legal Amazon has access to drinking water, and less than 20% has sewage treatment. Furthermore, the population suffers from public security problems and suffers from a housing deficit – there is a lack of more than one million homes, affecting indigenous, riverside and rural populations.

Despite this, it was highlighted that there is social support, albeit minimal, especially in terms of territorial defense, where the military presence and air patrols have worked to prevent crimes of exploitation of nature and which affect citizen safety.

The debaters pointed to the creation of public-private partnerships as a way to contribute to the development of infrastructure and public services, especially in sectors such as sanitation, health and education, ensuring that the most vulnerable populations, including riverside and indigenous people, benefit.

The panel also highlighted the challenges in infrastructure and regulation, with an emphasis on the crucial role of public regulation in attracting investments and ensuring the efficiency of services. Stability and regulatory independence were highlighted as essential to promoting trust in the sector and ensuring the sustainability of projects.

The integration between private capital and public regulation was highlighted as strategic, especially in innovative initiatives focused on sanitation, housing and technology, with special attention to models adapted to local realities, such as indigenous communities. Additionally, actions such as the use of solar technologies and telemedicine were cited as examples of mitigating measures that depend on a solid regulatory environment to thrive.

## PANEL

# REGIONAL COOPERATION ACTO AND GRULAC AMERICA AND THE CARIBBEAN

**Stage 5 – Xingu River**November 7<sup>th</sup>, at 3:30 PM**MODERATOR**

**Hussein Ali Kalout:** Political scientist, professor of International Relations, member of the Advisory Board of the Harvard International Review and researcher at Harvard University

**PANELISTS**

**Deocleciano José de Santana Netto:** Chief of Staff of the Northern Military Command

**Lise Tupiassu:** Professor of Law at the Federal University of Pará, where she directs the Amazon Human Rights Law Clinic

**Melina Risso:** Research Director at the Igarapé Institute

**Oscar Caipo Ricci:** President of the Perú Sostenible business network, president of the Empresarios por la Integridad initiative, former president of the National Confederation of Private Business Institutions (CONFIEP) and former managing partner of KPMG

**Vanessa Grazziotin:** Executive Director of the Amazon Cooperation Treaty Organization (ACTO)

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*The panel highlighted the importance of the Amazon Cooperation Treaty Organization (ACTO) in promoting regional cooperation between the eight Amazonian countries to face shared challenges, such as organized crime, environmental crimes, lack of infrastructure and low state presence. The need for a multilateral approach to balance sustainable development, environmental conservation and improving the quality of life in the region was emphasized, considering its cultural, economic and legal specificities. ACTO's unified vision is considered essential to articulate local and global efforts, promoting the conservation of the Amazon as an essential asset for the world.*

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Artist: Raket Caminha  
Technique: Digital photomontage

**R**egional cooperation in the Amazon, in particular the Amazon Cooperation Treaty Organization (ACTO), formed by eight countries in the region, was the central theme of the panel. The organization, which brings together Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela, was considered by participants as fundamental for the Brazilian State and for the Amazon region as a whole.

ACTO was created as a result of the Amazon Cooperation Treaty, signed in 1978, in a

context of concern about the impacts that post-Industrial Revolution development was having on the environment. The Amazon countries then came together and decided to sign a treaty. Over the years, the agreement has faced several challenges and is still being sought to materialize it effectively in a very diverse region.

The Amazon comprises different cultures, customs, forms of occupation, economic arrangements and laws that differ from country to country. With this, the panel





highlighted the need to reconcile interests and objectives between neighboring nations, through cooperation between nations and between multilateral organizations. In addition to the countries in the region themselves, all nations that depend on the region to ensure quality of life on the planet would also benefit.

The need to expand international cooperation was discussed, including actors such as the UN Security Council, to create global strategic policies that strengthen the region. Treaties are important because challenges are common in exploiting these resources among Amazonian countries.

In this process, ACTO was identified as a crucial agent. The organization must act as coordinator of a shared regional vision, integrating the interests of Amazonian countries into a multilateral strategy. Despite the differences between nations,

there is a consensus that the problems faced in the region, such as low human development indices (HDI), require joint and well-articulated solutions.

## PROBLEMS AND CHALLENGES

The Amazon faces a series of interconnected problems that affect it systemically. Among them, the advance of organized crime was widely discussed in the panel – its expansion, cross-border control and how this undermines the State's ability to act.

These criminal organizations, with high mobility, migrate from one type of illegal activity to another, involving drug trafficking, illegal mining and weapons trafficking. Organized crime does not occur in isolation in a country; It is made up of organizations that, when they suffer repressive



actions, move from illegal drug activity to mining, then to arms trafficking and so on.

This dynamic is closely linked to environmental crimes, such as deforestation and illegal mining, which degrade the environment and affect local communities. The absence of adequate infrastructure and the low presence of the State in the region worsen the situation. Without infrastructure, there is no way to create an environment conducive to sustainable economic development or the generation of local wealth.

Furthermore, the lack of stricter punitive policies for environmental crimes, especially in Brazil, worsens the problem. Compared to other types of crime, the penalties applied to illegal deforestation or river pollution are considerably lower, compensating for the continuity of these practices.

The panelists discussed the need to involve governments and seek international support for more efficient actions in a complex scenario. The Amazon, with its territorial vastness and unique characteristics, does not recognize political borders. Watersheds and ecological interactions cross national boundaries, requiring a unified regional vision to address problems. However, each country has its own interpretation of what is permitted or not in relation to environmental exploration, which makes it difficult to create integrated strategies.

## MULTIDIMENSIONAL APPROACH

Experts agreed that a multidimensional approach is essential to address the region's challenges. This means going beyond police operations or the simple presence of the Army in the region. Prevention must be the main focus, with measures that address the structural causes of deforestation and illegal activities. Investing

in new governance arrangements that enable the sharing of resources between Amazonian countries was also highlighted as a fundamental step.

To combat environmental crimes and deforestation, experts advocated the creation of a sustainable economic model that directly benefits local populations. This includes the promotion of value chains that integrate the standing forest with regional economic development. At the same time, it was highlighted that the fight against illegal activities, such as mining, needs to be accompanied by initiatives that improve quality of life indicators in the Amazon, preventing conservation from becoming a barrier to the progress of local communities.

Furthermore, infrastructure is considered a central element in transforming the reality of the Amazon. Without adequate roads, transport systems and connectivity, it is not possible to implement sustainable development initiatives or improve the quality of life of local populations. Infrastructure is also essential to attract private investment and establish production chains that value the standing forest.

Add to this the transfer of financial resources from developed countries, which are the largest emitters of greenhouse gases and must make it possible to protect the Amazon, with the aim of creating a sustainable economic model for the region's residents - not just combating illegal activities, but increasing the quality of life for those who live in the region, and thus integrating forest conservation with development.

However, panelists highlighted that this transfer of resources must be done with rigorous planning and effective application, ensuring that the funds are used to mitigate local problems, promote sustainable agricultural practices and sup-

port the region's energy transition. The Amazon is at the center of the climate debate, and climate finance needs to be targeted effectively.

### **COP 30, AN UNIQUE OPPORTUNITY**

It was mentioned that the Climate Conference to be held for the first time in the Amazon, in 2025 – COP 30 in Belém – represents a unique opportunity to show the region as it really is, demystifying narratives and highlighting its global importance. The event will also reinforce the urgency of a greater commitment by developed countries to preserving the forest – not as a concession, but as an obligation given the global benefits provided by the Amazon.

Furthermore, the panel addressed the need to create mechanisms that optimize the flow of international investments to the Amazon. Currently, much of climate resources are directed to areas outside the region, such as transport and energy transition, while local problems, such as sustainable land use and agricultural practices, receive little attention. Greater alignment between the region's needs and available resources is essential to ensure that the Amazon is at the center of the climate debate.

The panel's conclusion was that the Amazon must be treated as a global priority, but with solutions built from a regional and multilateral perspective. Integration between Amazonian countries is the key to transforming the region into a model of sustainable development, balancing conservation and economic progress.





PANEL

# THE ENERGY TRANSITION AGENDA, GLOBAL CHALLENGES AND BRAZIL'S ROLE

**Stage 5 – Xingu River**  
November 7<sup>th</sup>, at 5 PM

**MODERATOR**

**Patricia Ellen da Silva:** co-founder of AYA Earth Partners, president of the AYA Institute, partner-president of Systemiq Latam and former secretary of Economic Development, Science and Technology of the State of São Paulo

**Kalil Cury Filho:** Deputy Director of the Department of Sustainable Development of the Federation of Industries of the State of São Paulo (FIESP)

**Sandra Favretto:** Corporate Director at Environmental Services - Ambipar Response | Brazil

**PANELISTS**

**Gilberto Martins:** Director of Regulatory Affairs and Information Technology at ANFAVEA

**Rafaela Guedes:** Senior Fellow at the Brazilian Center for International Relations (CEBRI)

**Fernanda Delgado:** Senior Fellow at the Brazilian Center for International Relations (CEBRI)



*The energy transition, recognized as one of the biggest global challenges to combat climate change, was the central theme of the panel. The debate deepened Brazil's strategic role in the international context, exploring its opportunities and challenges to lead this movement. With a predominantly renewable energy matrix and abundant natural resources, Brazil has unique characteristics that can position it as a protagonist on the global climate agenda, from the exploration of biofuels to the development of new technologies.*





Artist: Rakel Caminha  
Technique: Digital photomontage





**A**s a crucial global challenge to combat climate change, the energy transition was the main topic of the panel. The experts focused more on the Brazilian context, as the country plays a significant role on the international agenda. Biofuels such as ethanol and biodiesel are already recognized globally as effective alternatives for reducing Greenhouse Gas (GHG) emissions.

The experts highlighted that Brazil occupies a strategic position in the geopolitics of the energy transition, both due to its largely renewable energy matrix and the available natural resources. Additionally, it has significant reserves of critical minerals such as lithium, essential for electric vehicle batteries and energy storage systems.

The debate sought to understand Brazil's role in this global context and how it is structuring itself to face this challenge. There are local reserves of critical minerals essential for electric vehicle batteries and energy storage systems, which can support the global energy transition.

According to the panelists, Brazil should not only explore these resources, but also take advantage of the moment to stand out globally, aligning its industrial policy with the energy transition – and innovate. The proximity to the BRICS (a group currently made up of Brazil, Russia, India, China, South Africa, Iran, Saudi Arabia, Egypt, Ethiopia and the United Arab Emirates) was also highlighted as an opportunity for diplomatic and strategic cooperation.

Diversification, according to the panelists, is a competitive differentiator. In this context, Brazil must pursue industrial policies that promote sustainable growth and that do not restrict its position to being just a supplier of raw materials. Brazil needs to be one step ahead, so as not to be trapped in



an industrial policy that does not benefit the country. To play a leading role, the nation will have to act both domestically and internationally.

## **REGULATORY COMPLEXITY AND OTHER BOTTLENECKS**

The energy transition in Brazil faces a series of challenges that require coordinated actions between the public sector, the private sector and civil society. One of the main obstacles is regulatory complexity, which ranges from tax issues to technical

aspects related to the taxation of innovative technologies, such as hybrid and electric vehicles, based on their greenhouse gas emissions.

Furthermore, the country's infrastructure, including ports, airports and roads, is insufficient to meet the logistics demands of a new production chain based on renewable energy. Another significant obstacle is the lack of qualified labor for new industries, which prevents the full development of technologies and processes associated with the energy transition. Decarbonization, although essential, also requires robust





investment in technologies such as green hydrogen, which still faces regulatory and development bottlenecks.

Another challenge observed in this sector is how to guarantee public investment, considering that, for the first time, there is an alignment between industrial and environmental policy. Although there is capital available, there is a lack of direction for effective projects and technological strategies that boost the sector. Furthermore, there is a pressing need to mobilize civil society, which, although directly affected by the impacts of climate change, is still not sufficiently engaged in this process, in the panelists' view.

## LEADERSHIP IN THE ENERGY TRANSITION

To overcome these challenges, it is necessary to strengthen the Brazilian renewable energy matrix, which already stands out for its predominance of low-carbon sources, such as ethanol and biodiesel. It is also necessary to promote electrification in strategic sectors, fully explore the potential of green hydrogen and invest in biofuels. The creation of a regulatory pact that integrates the energy transition with the country's neo-industrialization becomes essential, involving both the government and the private sector to leverage investments in the sector.

At the same time, it is crucial to develop training programs that qualify the national workforce to meet the demands of new production chains and emerging technologies. Stimulating public and private investment is seen as essential, with the creation of incentives that encourage the production and consumption of clean energy.

Ensuring sustainability in the energy transition process is another fundamental point, which includes ensuring access to renewable energy for vulnerable communities and promoting socioeconomic development, especially in the Amazon region, where the impact can be even more significant.

In the field of geopolitics, Brazil must adopt a strategic stance, balancing the exploration of its critical mineral resources with international cooperation, especially with blocs such as the BRICS, to ensure that economic and industrial benefits remain in the country.

With an electrical matrix close to meeting the objectives of the Paris Agreement and the UN 2030 Agenda, and an evolving energy matrix, Brazil has the potential to be a global reference in renewable energy. This transition, however, will not be simple: it requires courage, innovation and collaboration between government, private sector and civil society.

One of the main challenges, according to the debaters, is to overcome the fear of change and embrace the opportunities that the low-carbon economy offers. Just as the end of slavery in the 19th century transformed the global economy, the energy transition could usher in a new era of sustainable development.

The experts ended with a call to action: the time is now. With the natural, technical and strategic resources at its disposal, Brazil has everything it needs to not only participate in the energy transition, but to lead it globally. This leadership will be essential to consolidate the country as a reference in sustainability and technological innovation on the international stage.

## PANEL

# THE AMAZONS AND NEW ECONOMIES

## PATHS TO PROSPERITY IN THE REGION

### Stage 1 – Guamá River

November 8<sup>th</sup>, at 9 AM

#### MODERATORS

**Izabella Teixeira:** former Minister of the Environment

**Lívia Menezes Pagotto:** knowledge manager at Arapyaú Institute and executive secretary of the Amazon Concertation network

#### PANELISTS

**Ilona Szabó:** Co-founder and president of the Igarapé Institute

**Renata Piazzon:** General director of the Arapyaú Institute

**Valmir Ortega:** Executive director at Belterra Agroflorestas

**Marcelo de Camargo Furtado:** Head of Sustainability at Itaúsa and executive director of Itaúsa Institute

**Neidinha Suruí:** Indigenous member of the Kanindé Ethno-Environmental Defense Association

**Maria Nice Machado:** Secretary of Women of the National Council of Extractivist Populations (CNS)

**Ediney Drummond:** CEO of Lundin Mining and vice-president of the Board of Directors of the Brazilian Mining Institute (IBRAM)

*How to develop and strengthen capabilities in low-carbon mining, what are the challenges for valuing nature and what should be prioritized in the sustainable use of biodiversity were highlights of the debate. The closing panel took stock of the propositions from the previous two days of the Conference, with the aim of addressing actions on five fronts: new mining, biodiversity, climate, economy and an axis for cross-cutting themes – including health, education and capable infrastructure to make the new economies of the Amazon prosper. Biotechnology, combating deforestation and crime in the region and respect for traditional culture were prominent themes.*





Artist: Raket Caminha

Technique: Digital photomontage

**O**n the third day of the day of conversations and exchanges on a wide range of topics, this panel aimed to synthesize messages and results, with a commitment to generating actions. In the construction and conduct of the event, ideas and propositions were stimulated in five major pillars: new mining, biodiversity, climate, economy and an axis for national and transversal themes.

In the context of new mining, considering critical materials for the low-carbon

energy transition, it was highlighted that Brazil needs to develop and strengthen capabilities in the sector. This includes facilitating access for small and medium-sized companies to investments needed to adapt to global demand for strategic minerals.

The panels addressed which technology adjustments are key to the productivity panorama and competitiveness in this field for Brazil. And, they also generated insights about the role of mining in alli-

ance with other economic activities in the Amazon territories.

On the topic of biodiversity, the panels brought the perspective and approach we want to take on important cutting-edge points such as Artificial Intelligence, genome issues, implementation of the Nagoya Protocol and greater visibility to nature, with databases and biological collections. Valuing nature and making it part of companies' balance sheets was a high point in the debates.

According to the debaters, maintaining biodiversity also permeates the fight against crime in the Amazon, with the integration of various bodies and agencies, and legal frameworks on topics such as gold traceability, given the problem of illegal mining.

The debates shed light on the relationship between mining activity and protected areas and highlighted the need for a careful look at the bioeconomy that respects the ways of life of traditional peoples.

Regarding climate change, the panel highlights the challenge of degraded areas, the impacts on environmental services that become fragile, and a new role for the Amazon in the scenario of carbon emissions, to be given new meaning by science in the context of the IPCC (Intergovernmental Panel on Climate Change). It was highlighted that the Amazon is a producer of life and needs to be conserved.

The conversations on the topic of climate addressed the connections between the forest and cities and the urban realities in the various Amazons (ranging from the most conserved areas to the urban ones), in addition to the still barely visible relationship between climate and health

and air quality, especially for the most vulnerable populations.

In the field of new economies, the themes of the carbon market, forest restoration and reforestation stood out, as well as the conditions of infrastructure, science and technology, education, logistics, value addition and other essential points for these economies to emerge and sustain themselves.

In the panels, the land issue was recurrent, indicating a priority field for effective actions to influence various topics in the debates.

Among the recommendations, there is also the demand for review and alignment of environmental management with the demands of the contemporary world and the need for the fight against deforestation to go beyond command and control actions, also incorporating economic-financial actions. The challenge of critical minerals must be a priority. In conclusion, the panels reinforced the message about the country's leadership role – including mining – in the context of global climate geopolitics.

The world is getting hotter, more unequal and challenging, which demands more money in the economy to fund mitigation, adaptation and compensation actions for losses and damages, without leaving anyone behind.

For the debaters, it is possible to generate resources for a positive economy for the climate, nature and people. In Brazil, good actions and projects that create a better and fairer country respond to these challenges. The dialogue channels strengthened in the panels, between the most different views, are great achievements in this sense.



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