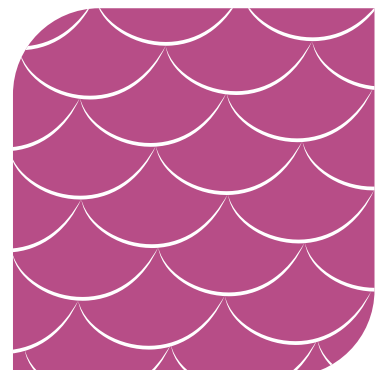


# Green Economy in the Amazon within the context of COVID-19



Partnership:







HUB DE  
BIOECONOMIA  
AMAZÔNICA



**FAS**  
Fundação  
Amazônia  
Sustentável



**Economics  
FOR Nature**  
A global partnership to put  
natural capital at the heart  
of our economies



# Green Economy in the Amazon within the context of COVID-19

2021

Foundation for Amazon Sustainability (FAS)

Partnership:

**iied**



# DATASHEET

## Foundation for Amazon Sustainability (FAS)

### Superintendents

**Virgílio Viana** - General Superintendent

**Valcléia Solidade** - Community Sustainable Development Superintendent

**Victor Salviati** - Superintendent of Innovation and Institutional Development

**Luiz Villares** - Financial-Administrative Superintendent

**Michelle Costa** - Superintendent of Management and Planning

### Innovative Solutions Program

**Gabriela Sampaio** - Innovative Solutions Program Manager

**Marysol Goes** - Amazon Bioeconomy Hub Convenor ( FAS|GEC)

**Carlos Rigolo Lopes** - Amazon Bioeconomy Hub Researcher (FAS|GEC) researcher

## Green Economy in the Amazon within the context of COVID-19

**Executive Coordinator** - Marysol Goes

**Text** - Carlos Rigolo Lopes e Marysol Goes

**Revision** - Alessandra Marimon, Daniela Lopes, Gabriela Sampaio, Virgílio Viana

**Graphic Content** - UP Comunicação Inteligente

**Cover photos** - Bruno Kelly and Rodolfo Ponguelupe

### Dados Internacionais de Catalogação na Publicação (CIP) (Câmara Brasileira do Livro, SP, Brasil)

Lopes, Carlos Rigolo  
Green economy in the Amazon within the  
context of COVID-19 [livro eletrônico] / Carlos  
Rigolo Lopes, Marysol Goes. -- Manaus, AM :  
Fundação Amazônia Sustentável, 2022.  
PDF.

Bibliografia.  
ISBN 978-65-89242-59-8

1. Amazônia - Aspectos ambientais  
2. COVID-19 - Pandemia 3. Desenvolvimento  
sustentável - Amazônia 4. Economia - Aspectos  
ambientais 5. Meio ambiente - Amazônia  
6. Sustentabilidade ambiental I. Goes, Marysol.  
II. Título.

22-101526

CDD-333.709811

### Índices para catálogo sistemático:

1. Amazônia : Desenvolvimento sustentável : Economia  
ambiental 333.709811

# EXECUTIVE SUMMARY

<b>PRESENTATION</b>	<b>06</b>
<b>1. INTRODUCTION</b>	<b>13</b>
1.1 Objectives	17
<b>2. METHODOLOGY</b>	<b>18</b>
<b>3. THE VISION OF THE FEDERAL GOVERNMENT ABOUT GREEN RECOVERY IN THE CONTEXT OF THE PANDEMIC</b>	<b>24</b>
3.1 Spending by the Union to combat Covid-19	26
3.2 Monetary Measures used to combat the effects of Covid-19	28
<b>4. MEDIDAS ECONÔMICAS COM IMPACTO SOBRE O CAPITAL NATURAL NA AMAZÔNIA ECONOMIC MEASURES WITH IMPACT OVER NATURAL CAPITAL IN THE AMAZONA</b>	<b>30</b>
4.1 Positive Impact	31
4.2 Negative Impact	35
4.3 Undefined Impact	39
4.4 COVID Index Estimate of Green Recovery: Positive spending on natural capital in comparison with negative spending on natural capital	40
<b>5. OTHER STIMULUS MEASURES FOR ECONOMIC RECOVERY IN THE AMAZON</b>	<b>41</b>
5.1 With Positive Impact	41
5.2 With Negative Impact over Natural Capital	50
<b>6. CONCLUSION AND RECOMMENDATIONS</b>	<b>54</b>
<b>REFERENCES</b>	<b>59</b>



# PRESENTATION

“The saw that cuts our Amazon;  
Cuts also the purity of the air!  
Every extinct animal in the world;  
It is a cycle of life breaking.”

Francisco Dandão

*This publication is part of a global study “Mainstreaming Natural Capital Approaches in Economic Decision-Making” about green recovery in the context of COVID-19 with the participation of case studies from Brazil, France, India, and Uganda. It was coordinated in Brazil by the Amazon Bioeconomy Hub, a coalition between the Foundation for Amazon Sustainability (FAS) and Green Economy Coalition (GEC), in partnership with the “Economics For Nature” Programa Green Economy Coalition (GEC) and International Institute for Environment and Development (IIED). This work was financed by the MAVA Foundation.<sup>1</sup>*

The present study has as its objective to evaluate the impacts of the economic stimulus measures that were implemented during the pandemic over the Brazilian Legal Amazon, This because the Amazon basin has the largest ecosystem of land biodiversity. It supplies between 35% to 40% of the fresh water for Latin America, possesses 60% of the remaining tropical forests of the world, and is the home for at least 25% of the land species. Besides this, it unites cultures and knowledge uniquely associated with the forest by way of indigenous populations belonging to more than 400 different ethnic groups that utilize the forest in a sustainable fashion to produce materials, foods, and medicines.

Despite being vital for human survival on the planet, the Amazon faces a crisis without precedent. The degradation of natural capital<sup>2</sup> and the loss of biodiversity are urgent preoccupations that encompass social, economic, and environmental factors still absent from the principal economic decision-making taken by governments. Currently, the most important of them is

<sup>1</sup> FAS and GEC (2020). Too Big to Fail: Transforming the Amazon’s Economy from Deforestation-Driven to Inclusive and Green.

<sup>2</sup> Natural capital is the stock of renewable resources and all the biodiversity contained in ecosystems that when combined provide benefits to people.

related to the actions that aim to contribute to the economic recovery in the context of Covid-19. The pandemic exposed the structural inequalities as well as the fragility of our economies, as many countries have implemented packages of adopted measures of financial resources as a strategy to boost economic recovery.

In Brazil, more than R\$520 billion in budgetary and tributary enforcement was spent to combat the effects of the pandemic in 2020<sup>3</sup> alone, which represents around 7% of the national GDP. On the 7th of May, 2020, the National Congress approved a Constitutional Amendment (EC) n° 106<sup>4</sup> instituting **an extraordinary fiscal and financial regime, and contracting for confronting national public calamities**. The measures most demanding for resources were emergency aid for people in vulnerable situations, financial aid for states and municipalities, support for micro and small businesses, additional spending for health care, among other things. Nonetheless, none of these measures considered within their scope, centrally or marginally, natural capital.

The Brazilian Central Bank also was authorized to make urgent monetary measures to facilitate the access to businesses of all sizes the financial resources against the escalation of the crisis. The majority of the resolutions of the bank also did not consider natural capital. The only exception was supplementary credit for family farming activities in the amount of R\$2.2 billion.

Thus, the study shows that resources destined for economic stimulus measures are being applied, and in the Amazonian states, around R\$ 54 billion should impact in some way natural capital. This amount is composed of budgetary actions proposed for 2021 and by grants and credits for the farming sector calculated between July of 2020 and June of 2021.

A large part of the resources are destined to measures that negatively impact natural capital. Those classified as low negative sum up to about R\$ 47.8 billion, which represents 87.2% of the total applied monies, mostly, in grants and credits to the farming sector. Now the high negative sum up only to a little more than R\$ 2 million. In respect to the positive measures, those with high impact over natural capital, sum up to R\$ 5.3 billion, which represent

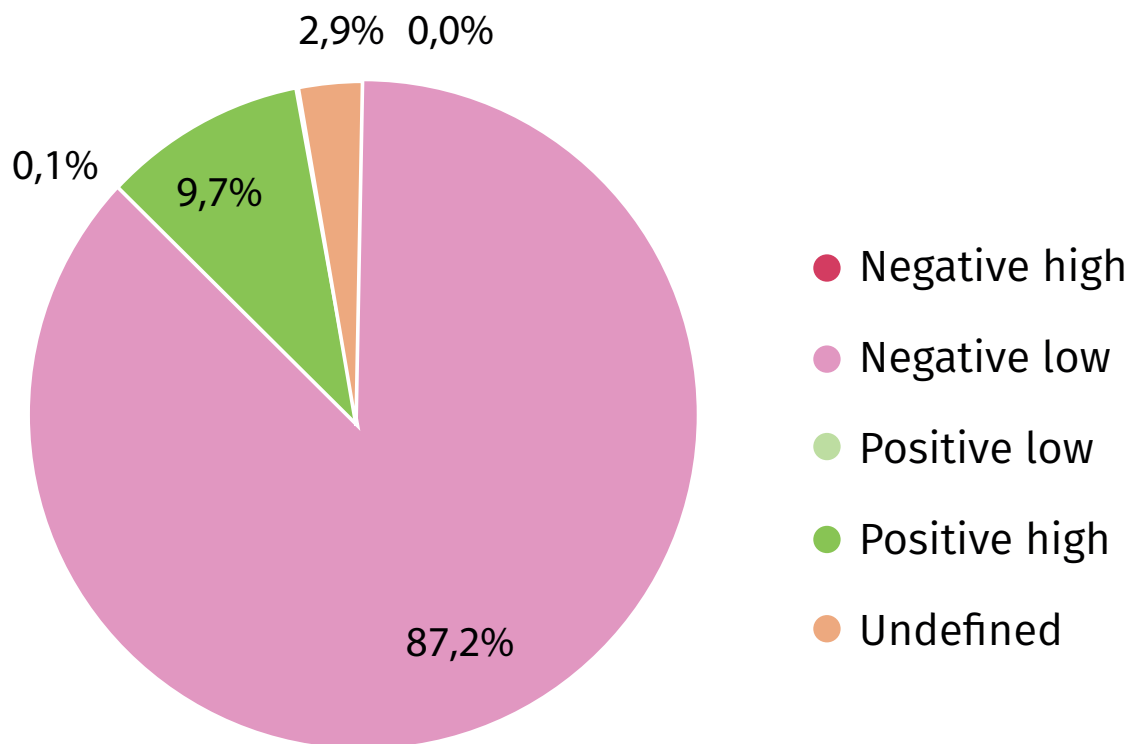
<sup>3</sup> Transparent National Treasury. Monitoring of Union Spending on Combating Covid-19.

<sup>4</sup> Available at: [http://www.planalto.gov.br/ccivil\\_03/constituicao/emendas/emc/emc106.htm](http://www.planalto.gov.br/ccivil_03/constituicao/emendas/emc/emc106.htm).

9.7% of the total, with emphasis in actions that finance family agriculture and low carbon productive systems. While the low positive measures sum up to approximately R\$ 54 million, or 0.1% of the total applied. The details about the adopted parameters in the scale of classification are presented in the methodology of the study.

There are still some measures with an undefined classification that combined represent 2.9% of the total of destined resources, as is shown in the following figure:

**Figure:** Impact of the economic stimulus measures over natural capital



Source: Database of green economic stimulus. Elaboration by us

Up against the backdrop of a significant sanitary, economic, and social crisis, that demanded an increase in public spending, it can be affirmed that natural capital is not being considered as central to the decision-making.

In this context, the absence of action by the Federal Government led the governors of the Legal Amazon states to launch, in July of 2021, the Plano de Recuperação Verde (PRV), unveiling the Strategic Planning of the Legal Amazon Consortium, which defined guidelines and oriented through a joint operation with the nine amazonic states, aimed at achieving a low emission economy in the Brazilian Amazon.

The Plan does not depend on personal available resources, but makes available a structure of governance in order to attract public, private, internal and external investors to the proposed projects.

Lastly, the study provides pointed recommendations to recognize the fact that investments in natural capital don't only produce economic results, but also advance social inclusion putting forward benefits, such as, for example, through the fortification of indigenous rights and the resilience of traditional communities. The recommendations also speak to the objectives of the four axis of the Green Recovery Plan, here below listed briefly:

### **AXIS 1 - CURBING ILLEGAL DEFORESTATION**

Action: Guarantee budgetary appropriations necessary to implement public policy of the monitoring and control of deforestation in accord with the axis of curbing of legal deforestation of the PRV with the intent to generate less gases from the greenhouse effect and reduce socio-economic and environmental impacts

### **AXIS 2 - PRODUCTIVE SUSTAINABLE DEVELOPMENT**

Action: Enlargement and boosting of grants and credits for low carbon family farming in accord with the axis of productive sustainable development of the PRV, guaranteeing a just and sustainable economic transition

### AXIS 3 - GREEN TECHNOLOGY AND TRAINING

Action: Expansion of the budgetary appropriations geared towards the development of value networks in bioeconomy in accord with the axis of green technology and training of the PRV, generating more jobs through training local labor and technological innovation

### AXIS 4 - GREEN INFRASTRUCTURE

Action: Modeling of projects for expanding sanitation infrastructure, in accord with the axis of green infrastructure of the PRV for more efficient technological investments using natural resources.

## GLOSSARY OF TERMINOLOGIES

---

### LEGAL AMAZON

Area that encompasses nine Brazilian states belonging to the Amazon Basin. They are: Acre, Amapá, Pará, Amazonas, Rondônia, Roraima and part of the states of Mato Grosso, Tocantins and Maranhão.

### BIOECONOMY

Industrial production model based on using biological resources with the intent of offering sustainable solutions for systems of production with sights on substituting fossil and non renewable fuels. **Source: Embrapa**

### AMAZON BIOECONOMY

Series of economic activities related to productive chains based on managing and cultivating Amazonian biodiversity, by aggregating value and generating positive impacts for local sustainable development, taking into consideration biocosmetic, biopharmaceutical, nutraceutical production chains, biodyes and other derived bio-diverse products native to the Amazon.

## **NATURAL CAPITAL**

Natural Capital refers to the renewable resources and ecosystems, including all the biodiversity contained within, capable of providing benefits for people. The ample gamut of services supplied by natural capital include food, water, energy, shelter, medicine, and prime materials that we utilize for the creation of products. Also can be considered less obvious services such as cleaning of the air, protection against floods, climactic regulation, pollination, and recreation. Source: Natural capital for governments: what, why and how (2018).

## **ENVIRONMENTAL CONSERVATION AND CONSERVATION OF BIODIVERSITY**

Ecological use of natural resources; exploration of the riches produced by nature without harming the environment - the contrary of “environmental preservation”, that doesn’t allow for the use of natural resources. **Source: Ministry of the Environment**

## **GREEN ECONOMY**

A green economy is defined as a low carbon economy, efficient in terms of resources and socially inclusive. In a green economy, job growth and revenue are driven by public and private investment in economic activities, such as infrastructure and assets that allow for the reduction of carbon emissions and pollution, increased efficiency in energy and resources, the prevention of loss in biodiversity and eco-systemic services. **Source: UNEP**

## **GREEN RECOVERY**

Refers to the packages of environmental economic measures implemented by governments to stimulate economic recovery in the context of Covid-19. The term has been amply adopted to guarantee that spending and investments be directed towards sectors that drive a more resilient and inclusive sustainable socio-economic model.

## **ABBREVIATIONS**

---

ABC: Low Carbon Farming

ARPA: Program for Protected Areas of the Amazon

BCB: Brazil Central Bank

BNDES: National Bank of Economic and Social Development

CAPEX: Capital Expenditure

CBI: Climate Bonds Initiative

CMN: National Monetary Council

CNAE: National Classification of Economic Activities

CONAMA: National Council of the Environment

CTAPME: Inter Ministerial Committee of Project Analysis of Strategic Minerals

EC: Constitutional Amendment

FAS: Foundation for Amazon Sustainability

FEBRABAN: Brazilian Federation of Banks

GEC: Green Economy Coalition

GEF: Global Environment Facility

ICMBio: Chico Mendes Institute of the Conservation of Biodiversity

IIED: International Institute for Environment and Development

LCA: Credit Letters for Agro-business

LOA: Annual Budgetary Law

MAPA: Ministry of Agriculture, Cattle Raising and Supply Chain

ME: Ministry of the Economy

MMA: Ministry of the Environment

MME: Ministry of Mining and Energy

PAA: Amazon Plan Now

PD&I: Research, Development and Innovation

PIM: Industrial Center of Manaus

PL: Bill

PPI: Program for Investment Partnerships

PRONAF: National Program for the Fortification of Family Farming

PRONAMPE: National Program for the Support of Micro-businesses and Small Businesses

SBP: Social Bond Principles

SEPEC: Special Bureau for Productivity, Job and Competitiveness

TCFD: Task-force on Climate-related Financial Disclosures

UCs: Conservation Units

# 1. INTRODUCTION

The pandemic caused by COVID-19 exposed structural inequalities and a lack of economic resilience around the world. Many national governments implemented economic, tributary, and financial packages with the intent to revert the socio-economic effects faced in this context.

A total of US \$11.8 trillion in post-covid stimulus packages already have been implemented by governments around the world. In accordance with the report of the World Economic Forum (WEF, 2020), prioritizing nature and integrating natural capital in economic and public policy decision-making could create 395 millions of jobs and more than US\$10 trillions of annual revenue for businesses until 2030. Nonetheless, until now, few countries have taken measures to integrate and prioritize the protection of natural capital in economic decision-making in the context of the Covid-19 pandemic.

Different international initiatives involving governmental and non-governmental actors also aim towards the direction of natural capital. The United Nations have already announced that nature contributions will be measured in GDP<sup>5</sup> estimates. The Forum of Environmental Ministers of Latin America and the Caribbean have already, in February of 2021, announced the commitment to put forward a post-pandemic green recovery, through economic stimulus packages.

In the Amazon, the Interamerican Bank of Development and the Presidential Pact of the Leticia Pact gave inception to the structuring of a fund for the sustainable development of the region for the next five years. The initiative looks to advance projects of (i) bioeconomy, (ii) sustainable management of agriculture, livestock and forests, (iii) human capital and (iv) cities and sustainable infrastructure, in coordination with the Organization of the Treaty of Amazonian Cooperation (OTCA) (BID, 2021)<sup>6</sup>.

This is because the Amazon Basin is an ecosystem of the largest land biodiversity, supplying between 35% and 40% of all the freshwater of Latin

<sup>5</sup> More information: <https://seea.un.org/ecosystem-accounting>

<sup>6</sup> BID (2021). Interamerican Bank of Development launches an initiative for the sustainable development of the Amazon region. Press Release. 18th of March 2021.

America, possessing 60% of the tropical rainforests that remain in the world and is the home to at least 25% of land species. Furthermore, it unites cultures and knowledge uniquely associated with the forest by way of indigenous populations belonging to more than 400 ethnic different groups that utilize the forest sustainably for the production of materials, foods, and medicines, for example (FAS and GEC, 2020).

Nonetheless, the region is still characterized by low indexes of social and economic development, along with a deficit of adequate infrastructure in mobility, sanitation, energy and internet, for example. In Brazil, the Legal Amazon is formed by nine states, occupies 60% of national territory and represents only 9% of the GDP<sup>7</sup>. The economic problems of the region are evidence that, until now, Brazil has faced difficulties in developing an economy of the forest which has more than 4.2 million square kilometers of natural canopy.

The economic dynamic of the region continues to be centered mainly in sectors that comprise the local biodiversity, like the timber production, farming, and mining. Important activities for the generation of income and employment, but that do not contribute with the natural capital.

The consolidation of the Amazonian rural border is directly associated with the region known as the “archway of deforestation”, where 75% of the deforestation of the biome is concentrated. Historically, since the decade of 1960s, the construction of highways influenced the pattern of the arch, going from the west of Maranhão and south of Pará, in direction of the states of Mato Grosso, Rondônia and Acre (Oviedo, et al., 2019)<sup>8</sup>.

More recently, data about rural and farming activities, show that the region contributes 20.3% to 22.6%, respectively, of additional brute value of the Brazilian economy (IBGE, 2018), and it determines, in large part, the economic, demographic, and cultural dynamic of the region.

Though, with the acceleration of the deforestation rate in the last three years, some climatologists have begun to call attention to the risk of the Amazon

<sup>7</sup> Mais informações em: <https://amazonialegalemdados.info>

<sup>8</sup> Oviedo, A.; Lima, W.P.; Augusto, C. (2019). The archway of deforestation and its broaches. Socio-Environmental Institute, São Paulo.

<sup>9</sup> Lovejoy, T.; Nobre, C. (2018). Amazon Tipping Point. Science Advances, 21 Feb 2018, Vol 4, Issue 2.

Forest reaching the “point of no return”<sup>9</sup>, a situation in which it will not be able to regenerate against the destruction of the local biodiversity caused by the predatory model of occupation of the territory.

With that, against the Covid-19 pandemic, new space for discussion has surged with the intent to advance the scenario of a green economic recovery capable of generating employment and income, and preserving local biodiversity. Other economic activities that still do not possess the same representativeness in the GDP of the region, gained the chance to be seen as priorities in this new scenario.

The Amazon bioeconomy is one of them and it is connected to the development of economic and commercial activities that generate aggregate value for native products of the region, examples being Brazil nuts and açaí. The activities of the Amazon bioeconomy tend to strengthen small businesses of the region, because it is a model of development of the forest that includes communities and populations in productive networks, aggregating value in the transformation of new products.

Nonetheless, all of the productive networks of the forest, of which the bioeconomy depends on, have common challenges to be overcome that go from the lack of logistical infrastructure, connectivity, and improvement, to commercial arrangements that enable the exploitative extraction of these inputs (Adeodato, 2019)<sup>10</sup>.

Another example of economic appreciation done in an intelligent manner in the forest, can happen via introducing conceptual techniques of low carbon farming. This model proposes implementation of integration systems agriculture-cattle raising-forestry, soil conservation, no tillage systems, and the recovery of degraded pastures, techniques that are accepted as sustainable alternatives to reduce the negative impacts of the sector towards the environment.

Thus, to put nature at the center of economic decision-making is urgent and necessary in the context of this grave sanitary, economic, and social crisis. The investments in this sense favor not just the environmental aspects characteristic of the biome, but also the populations and communities that live by the sustainable development of products that depend on standing

<sup>10</sup> Adeodato, Sérgio (2019). Repairing the Amazon. Institutional Portraits- Bioeconomy.

forests. For this reason, the valorization of natural capital is an opportunity to stimulate a green recovery, contributing to the protection of biodiversity and advancing sustainable economic development in the region.

This research unites our forces with others to measure and evaluate green economic recovery plans in the context of the pandemic. Diverse studies point in this direction and contribute also as theoretical-methodological references in the case to follow. Among them: *Undertaking a Global Assessment on the Integration of Natural Capital into Government Economic Decision-Making* of the International Institute for Environment and Development<sup>11</sup>, *The OECD Green Recovery Database: Examining the environmental implications of COVID-19 recovery policies* da OCDE<sup>12</sup>, *The Greenness of Stimulus Index* of Vivid economics<sup>13</sup> and the *Green Economy Tracker* of the Green Economy Coalition<sup>14</sup>. Everyone analyzes possible paths through government investments and incentives of different countries, to foment more resilient ecosystems.

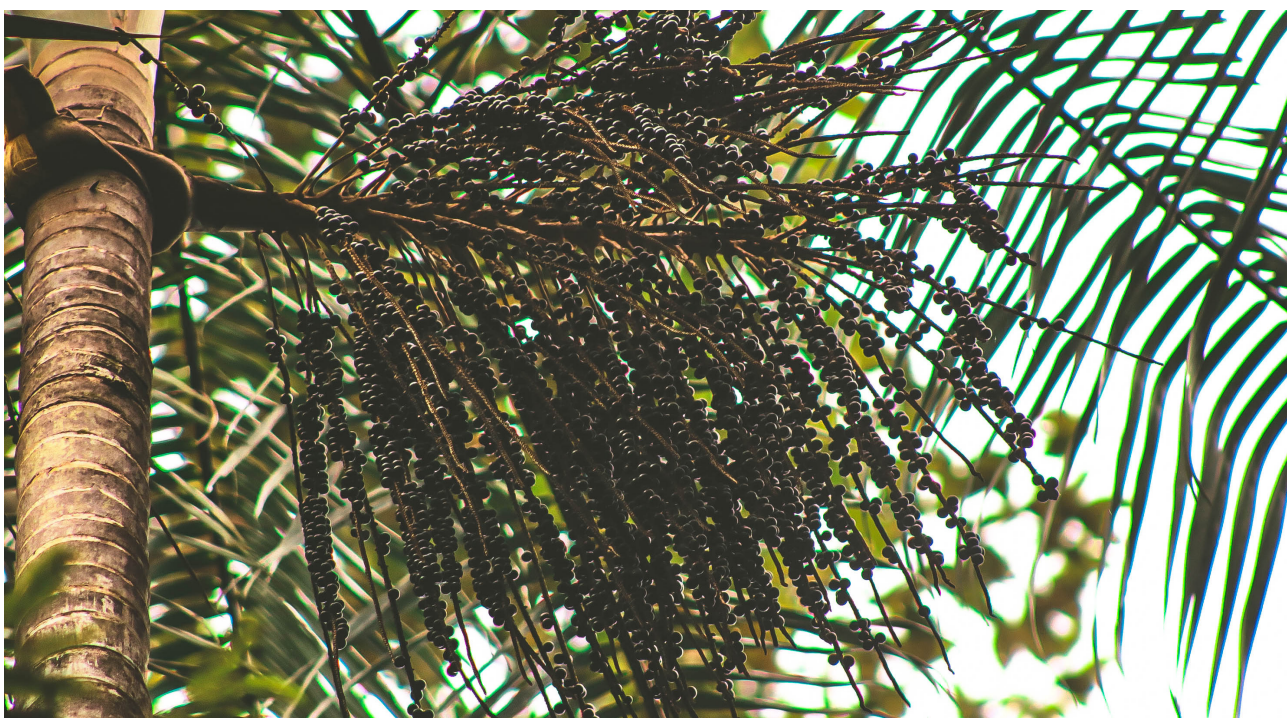


Photo: Dirce Quintino

<sup>11</sup> Steele, P., Debnath, I. (2020). *Undertaking a Global Assessment on the Integration of Natural Capital into Government Economic Decision-Making*. Scoping Report, IIED.

<sup>12</sup> OCDE (2021). *The OECD Green Recovery Database: Examining the environmental implications of COVID-19 recovery policies*.

<sup>13</sup> Vivideconomics (2020). *Greenness of Stimulus Index*. An assessment of Covid019 stimulus by G20 countries and other major economies in relation to climate action and biodiversity goals.

<sup>14</sup> GEC (2021). Green Economy Coaliton. *Green Economy Tracker*. Disponível em: < [www.greeneconomytracker.org](http://www.greeneconomytracker.org) > Acesso em: 20 ago. 2021.

## 1.1 Objectives

This research unites the forces of other national partners such as India, Uganda, and France to induce plans for economic recovery, in the context of the pandemic, and integrates natural capital into the decision-making for budgetary, tributary, monetary and commercial measures. This report broaches the Brazilian case specifically profiling the Legal Amazon territory.

- Identify the measures that are being implemented and what is their impact over natural capital;
- Understand how the measures can become more sustainable;
- Make recommendations about how natural capital can be conserved and included in these economic measures, in view of the context of the Brazilian Amazon, to advance a Green Post-pandemic recovery;
- To influence the decision makers and increase monetary resources in the measures and policies that conserve natural capital and biodiversity of the region.



Photo: Dirce Quintino

## 2. METHODOLOGY

The analysis looks to identify and document positive and negative economic stimulus policies in relation to natural capital, in the context of the Covid-19 pandemic. The emphasis being on measures capable of contributing to a scenario of an economic recovery led by the states that make up the Legal Amazon.

This means that the data covers not only measures that directly contribute to the biodiversity and the preservation of the ecosystems of the region, but also identify policies that can have negative consequences. The data raised doesn't envision, however, covering spending related to Covid-19 that doesn't have implications over natural capital clearly.

For this, the study increased the scope and included other measures such as the Annual Budgetary Law (LOA) of 2021<sup>15</sup>, rural grants and credits, funds financing projects, concessions for public amenities for private initiatives provided for 2021 and regulatory acts. All these measures have as their scope the states of the Legal Amazon.

Measures with monetary values, like budget and grants, were analyzed in order to construct the **Green Recovery Covid Index**, with the intent to be able to compare with parallel studies realized in France, India, and Uganda, who utilize a similar methodology.

Here, the measures raised were organized in a **Green Economic Stimulus Database** according to variables that appear in the following box.

## **Box - Fields utilized to characterize the measures in the Green Economic Stimulus DataBase**

**i. Type of measure** - monetary, budget, fiscal incentive, concession, fund/donation, regulatory act, grant and credit.

**ii. Coverage** - focus are the nine states of the Legal Amazon, however many measures possess national coverage or only for the states of the northern region.

**iii. Target Sector of the measure** - Family farming, Bioeconomy, PD&I, Mining, Infrastructure, Sanitation, Forestry, Entrepreneurship and Fishing.

**iv. Monetary Value of the Measure** - total financial estimate announced allocated amount when applicable and available. Some measures do not possess announced amounts; others are not specific in regards to a period of time in which the financing will be disbursed; still there are others where it is not viable to attribute a monetary amount, such as the regulatory acts.

**v. Responsible Governmental Region** - Federal Government or of the sub-national states.

**vi. Evaluation of the possible impact over natural capital** - Negative High, Negative Low, Positive Low and Positive High.

The last point of this list, that corresponds to the possible impact over natural capital, is referenced by the **green taxonomy proposed by Febraban(2021)**<sup>16</sup> following the National Classification of Economic Activities - CNAE, instrument of national standardization of the economic activity codes and the framework of criterias utilized by the diverse administrative tributary organs of the country.

<sup>15</sup> Brazil (2021b). Law n. 14.144, 22nd of april 2021. Volume IV. Detailing of the Actions

The actual version of the taxonomy incorporates international references like the Task-force on Climate-related Financial Disclosures (TCFD)<sup>17</sup>, an EU Taxonomy of the European Union, the Climate Bonds Initiative (CBI)<sup>19</sup> e Social Bond Principles (SBP, da International Capital Markets Association)<sup>20</sup>, in which they refer to “green economy”. The version also creates a modality “exposure to environmental risk” for activities and enterprises subject to environmental licensing for possessing potential environmental impact, based on the National Council of the Environment (CONAMA).

From the classifications of taxonomy proposed by Febraban, about the “Green Economy” and “ Exposure to Environmental Risk”, it was possible to create a **matrix** in which it was added a column of “**Possible Impact over Natural Capital**”, with the goal of classifying measures raised for the study, as shown in the following quadrant.



Photo: Dirce Quintino

## Quadrant 1 - Adaptation Matrix of Febraban classifications for the present study

GREEN ECONOMY (Febraban)	EXPOSURE TO ENVIRONMENTAL RISK (Febraban)	POSSIBLE IMPACT OVER NATURAL CAPITAL
x	High exposure	Negative high
	x	
Moderate contribution [Social]	High exposure	Negative low
Moderate contribution [Social]	x	
Moderate contribution {Environmental}	High exposure	Negative low
Moderate contribution {Social + Environmental}		
Moderate contribution {Social + Environmental}	x	Positive low
Alta contribuição High contribution [Social]		
High contribution {Environmental}	x	Positive high
High contribution {Social + Environmental}		

Source: Green Taxonomy of Febraban (2021). Elaboration by us.

<sup>16</sup> Febraban (2021). Explanatory Guide of Green Taxonomy. Characterization of financial activities for the banking sector on socio-environmental and climatic aspects.

<sup>17</sup> Available: <[www.fsb-tcf.org](http://www.fsb-tcf.org)>

<sup>18</sup> Available: <[ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities\\_en](http://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en)>

<sup>19</sup> Available: <[www.climatebonds.net/](http://www.climatebonds.net/)>

<sup>20</sup> Available: <[www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/social-bond-principles-sbp/](http://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/social-bond-principles-sbp/)>

Generally, taking into consideration the previous matrix, the impacts of the measures over natural capital can be described in the following manner:

**Negative High** - Negative impact. As a principle, it does not use green techniques/technologies, nor environmental preservation/conservation/protection as a central aspect. Generates a negative impact directly onto the environment.

**Negative Low** - Negative Impact. As a principle, it does not use green techniques/technologies, nor environmental preservation/conservation/protection as a central aspect. Generates a negative impact indirectly onto the environment.

**Positive Low** - Positive Impact. It considers natural capital, though still not centrally, but yes, in an indirect fashion. It may not consider natural capital, but the implementation of the measure can impact it positively. An example is the measure that brings infrastructure of connectivity ( internet) to isolated communities in the Amazon, supporting economic development of activities in the forest.

**Positive High** - Positive Impact. Considering natural capital centrally, protecting it/conserving it directly.

**Undefined** - This option was utilized for the measures that potentially have impact over natural capital, but it may not be possible to identify if they are positive or negative, because it depends on which projects the resources are implemented. One example is a budgetary action “Financing Projects of the Productive Sector within the scope of the Amazon Development Fund- FDA”.

It is important to highlight that the proposed categorization is a method of evaluation to be utilized in aggregate analysis in the context of this study, not intending to be a judgement or definitive evaluation of the probable impacts of each policy.

### **Consideration about the construction of the DataBase:**

- For concessions, they adopted a criteria to select only the projects provided for the auction of 2021, in accordance with the 16th Meeting of the Council of the PPI, that occurred on the 27th of April of this year. Over the perspective of natural capital, they considered the areas of mining, transport, energy, sanitation, and forestry. For some of the projects, it was not possible to obtain the estimated value of the investments (CAPEX) because, or they belong to a block of projects that include other regions, getting away from the scope of this work, or they were not available on the online platform of the PPI.

### **Limits of the research**

There is not a clear policy or initiative of the Federal Government in advancing a green economic recovery as a form to mitigate socio-economic impacts of the pandemic, on the contrary, it ascertains that the economic measures are implemented sometimes in a dispersed fashion and without constituting an economic plan. Thus, identifying if they impact or can impact in a positive or negative form natural capital is a challenging task and in many cases, imprecise. Some factors turn the exercise complex in this categorization:

- The initial information about the measures in general, such as name and description, are insufficient to evaluate them completely (ex. challenge of eligibility in respect to the indirect impacts of the infrastructure projects), and, sometimes, there is no additional information.
- A specific territorial profile oriented towards the states of the Legal Amazon make it difficult to obtain information as to how much public spending was directed to each state. In many cases, the measures of national coverage do not permit identification of the destined percentage to the Amazon, once there is no disassociated data. In these cases, it was opted to not utilize these measures.

- While the proposed budget for 2021 was analyzed by means of LOA, it was not possible to realize the same type of detailed analysis for state budgets of the 9 states that compose the Legal Amazon. This type of inspection can be considered in a next phase. Thus, budgetary measures of the states that were gathered were only the ones that were announced by the governments during the period of collection, between March of 2020 and April of 2021.
- There is a probable tendency to report more often measures that are environmentally positive in the official channels of governments, in comparison to negative measures, because the “green” measures are frequently more visible.

### **3. THE VISION OF THE FEDERAL GOVERNMENT ABOUT ECONOMIC RECOVERY IN THE CONTEXT OF THE PANDEMIC**

In accordance with the edition of the 29th of April of 2020 Interministerial Coronavirus Communique of the Federal Government ( Ministry of Economy, 2020)<sup>21</sup>, a Special Bureau for Productivity, Employment and Competitivity (Sepec), of the Ministry of the Economy (ME), established the Committee of the Monitoring of the Brazilian Productive Sector, responsible for the structuring of 12 emergency task forces to reduce the impacts of the Covid-19 pandemic on the Brazilian economy.

The objective, according to the ME, was to search out the best conditions for the indicated problems by associations and representative entities of diverse productive sectors, guaranteeing necessary conditions for financial viability for companies to maintain activities. Still, according to the ministry, the contributions were converted into public policy and legal standards, serving as pillars for the “Economic Recovery Plan”.

According to the information from April of 2020, that appears on the official site of the Ministry of the Economy, “the project is still being designed based on daily updates and the constant monitoring of the situation of the entire country” ( Ministry of the Economy 2020). However, until April of 2020, while the data for this research was collected, no evidence appeared that this Plan existed in any structured form or had been presented to Brazilian society transparently.

When the topic was researched, what was found are declarations, mainly from the economic team of the Ministry of the Economy, like comments delivered by the minister in November of 2020 during his participation in the event *Bloomberg Emerging + Frontier Forum 2020 Digital Series: 3rd edition* where he affirms the intention to “get out of a state economy to a market economy” (Ministry of the Economy, 2020a)<sup>22</sup>.

This has been the vision of the current government since much before the pandemic and it is contextualized to contribute to justify why measures such as concessions are being considered in this study.

Thus, one of the defined priorities of the economic agenda are concessions and privatizations of public assets cultivated towards the aim of the **Program of Investment Partnerships** (PPI), that has not lost its’ steam even with a pandemic, remaining the status priority of this type of measure as stimulus for the national economic recovery, according to the personal special secretary of the program (Ministry of the Economy, 2020b).

<sup>21</sup> Ministry of the Economy (2020). Twelve task forces of the government reduce the economic impact of the pandemic. Ministry of the Economy, 29th of April 2020.

<sup>22</sup> Ministry of the Economy (2020a). Brazil is in a consistent process of economic recovery, assures Guedes. Ministry of the Economy, 10th of November 2020.

## Program of Investment Partnerships (PPI)

In the Special Bureau for the Program of Investment Partnerships, the efforts are concentrated to enable investments in infrastructure through partnerships with the private sector. The campaigns involved: (i) project prospection; (ii) evaluations of technical, economic, and environmental viability, and regulatory modelling; (iii) construction of publications and contracts; (iv) dialogue with the private sector; (v) enhancement of the legal and regulatory framework; (vi) institutional articulations.

If the team of economic management of president Jair Bolsonaro (2019-2022) assumed the government establishing that the objective would be to increase the participation of private initiative in the economy, some years before, the amendment of the “Spending Ceiling” had been approved instituting a new fiscal regime, that limited the spending growth of the Brazilian government for 20 years.

To face the escalation of the economic crisis due to the pandemic, putting into practice tributary, budgetary, and monetary measures, the government needed to approve in the Federal Congress a parallel budget that would not be limited by a ceiling.

Thus, the vision of the government as a scenario for economic recovery in the current context, refers to a project driving down public investment, and more campaigns related to structural reforms, creation of new legal boundaries, privatizations, concessions and other measures to reduce bureaucracy.

### 3.1 Spending by the Union in combating Covid-19

Against the escalation of the pandemic caused by Covid-19, the Federal Senate approved a legislative project that recognized the state of public calamity in the country. On the 7th of May of 2020, the National Congress approved a Constitutional Amendment (EC) n° 106 that **instituted an extraordinary regime of fiscal, financial and procurement for the facing of a national public calamity**, separating the annual fiscal budget from the measures that would be adopted to contain the effects of the Covid-19 pandemic.

The extraordinary fiscal regime permitted that the Federal Government edit Provisional Measures for the authorization of new spending. The EC also conceded to the Central Bank of Brazil the permission to execute monetary policy facing the pandemic, authorizing the buying and selling of titles to increase liquidity in the market and create flow in the channels of credit jointly with the banks for loans and debt refinancing.

The extraordinary budgetary spending can be followed through the platform of the National Treasury of the Ministry of the Economy, which informs the estimated expenses of the Union through measures that face the effects of the Covid-19 pandemic (Quadrant 2).



Photo: Dirce Quintino

## Quadrant 2 - Monitoring of fiscal spending by the Union to combat Covid-19, according to the National Treasury

Spending with Covid-19	2020	021*
	R\$ billions	
Emergency Aid to People in Situations and Vulnerability	293.11	35.83
Expansion of the Program Bolsa Familia	0.37	
Emergency Benefits for Job Maintenance and of Income	33.50	6.37
Financial aid to the States, Municipalities and DF	78.25	
Financing Concession for the Payment of Salaries on Payroll	6.81	
Transference to the Energetic Development Account	0.90	
Support to microbusinesses and small and medium sized businesses	58.09	5.00
Financing of Touristic Infrastructure	3.08	0.44
Emergency Program for Access to Credit - Machines	5.00	
Additional Expenses of the Ministry of Health and other Ministries	42.70	11.44
Acquisition of Vaccines	2.22	9.64
<b>Total</b>	<b>524.02</b>	<b>68.72</b>

Source: Transparent National Treasury, 2021. Elaboration by us. \*Up to July of 2021

A brief analysis shows that the amount spent in 2020, of R\$ 524 billion, equals approximately 7% of the GDP of the Brazilian economy relative to the same year. The resources were directed towards the **guarantee of employment and household income** (emergency aid plus emergency benefits for the maintenance of employment and income) correspond to 62% of the total amount, with spending around R\$ 326.61 billion, in 2020 only.

**Financial aid to states and municipalities** was the second largest spending, which came to around R\$ 78 billion, mobilizing approximately 15% of the total expenses, while the **support for micro-businesses and small and medium sized businesses** followed with spending of R\$ 58 billion in 2020 and more R\$ 5 billion in 2021.

This last spending is being implemented through Pronampe, a program that makes available loans with low interest and longer payment terms. What defines which companies can access these loans is their annual revenue, there is not any specification in regards to an economic sector, which precludes evaluating the impact over natural capital. Moreover, it lacks sufficient data to make a territorial profile that contemplates the nine states that compose the Legal Amazon.

Therefore, it is possible to indicate the absence of prominence of the green economy in the series of stimulative spending implemented in the context of the Covid-19 pandemic.

### **3.2 Monetary measures in combating the effects of Covid-19**

In relation to monetary measures, the Central Bank of Brazil (BCB) has advanced a policy of **credit, as an instrument to facilitate the access of companies of diverse sizes and financial resources, against the escalation of the crisis.**

The Central Bank was authorized to release liquidity and capital, maintaining the financial market heated with the supply of credit, while the state of public calamity endured.

Nonetheless, the majority of the measures also do not consider natural capital and, therefore, will not be addressed. The only exception is the **supplementary credit for farming activities.**

Through the Resolution CMN 4.787, on the 23rd of March of 2020, the National Monetary Council (CMN) and the Central Bank announced, among other measures, for the increase of liquidity of the National Financial System, the relaxation of the rules of resource application raised by the banks by way of the Credit Letters of Agro-Business (LCA), increasing in R\$2.2 billion of credits for the segment.

In accordance with the resolution, the calculus base used for the use of the LCAs in the targeting of rural credit was adjusted to allow for more financial institutions raising funds with this type of line. Thus, the rules were relaxed for the application of resulting resources from the capital raised in agro-business activities.

Name of the Measure	Description and objective	Potential impact to natural capital
Flexibilization of the use of Credit Letters of Agro-business	Monetary measures advanced by the Central Bank to increase liquidity	Expansion of Agro-Business and <b>potential increase of deforested areas in the region of the Amazon</b>

Both stimulative spending, as well as, monetary campaigns, addressed up to this point, show a **series of measures oriented towards minimizing the socio-economic effects of the pandemic. It is still not possible to affirm that this increase in spending and the way in which it was structured represents a scenario for economic recovery**, being that the country finds itself in the middle of a second wave of cases and without effective emergency mitigating policies of economic impact.

Nonetheless, **it is possible to say that natural capital was not considered as an objective guide in the construction of these measures.** The only exception refers to the **flexibilization of rural credits that are not necessarily attached to the promotion of sustainable practices in rural activities**, nor take advantage of the opportunity to condition the credit to this type of practice.

Even so, this monetary measure makes up part of the database that unites other governmental initiatives that go beyond the war chest, but that were announced and put into practice during the period of the pandemic.

These measures will be addressed jointly in the following section, looking to identify in which way they can contribute to a green economic recovery in the Amazon.

## 4. ECONOMIC MEASURES WITH AN IMPACT OVER NATURAL CAPITAL IN THE AMAZON

The resources destined towards economic stimulus measures brought up in this study, show that around R\$ 54 billion are being applied in the states of the Legal Amazon that should impact natural capital. This amount is composed by proposed budgetary actions in the LOA of 2021 for different economic sectors and by measures of grants and credit to the farming sector calculated between July of 2020 and June of 2021.

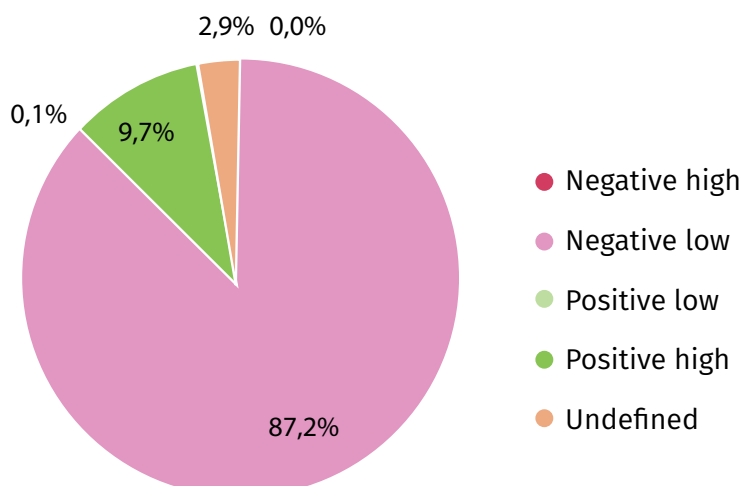
The analysis shows that a major part of the resources are allocated to seven measures classified as having a negative low impact on natural capital. All together it adds up to R\$ 47.8 billion that represents 87.2% of the total applied monies in the region, allocating the majority of these monetary resources towards grants and credit for the farming sector.

Next comes the positive high measures that add up to R\$ 5.3 billion, which represents 9.7% of the total applied amount, highlighted by campaigns to finance family farming and low carbon productive systems.

In much smaller proportions than previously mentioned, there exists positive low measures with at around R\$ 54 million, or 0.1% of the total applied monies, and negative high measures which are allocated at a little more than R\$ 2 million.

There are still some measures with the classification undefined that are addressed further ahead, but all together they represent 2.9% of the total resources allocated and should impact natural capital in the Brazilian Amazon. The figure and quadrant to follow gives more details about these amounts.

**Figure 1: Impact of the economic stimulus measures over natural capital**



Source: Green economic stimulus DataBase. Elaboration by us.

**Quadrant 3: Resources destined towards economic stimulus measures and their impact over natural capital.**

Impact over natural capital	Number of measures	Resources (em R\$ millions)	%
Negative High	2	2,1	0,0
Negative Low	7	47.798,8	87,2
Positive Low	8	54,2	0,1
Positive High	4	5.331,0	9,7
Undefined	10	1.600,8	2,9
<b>TOTAL</b>	<b>31</b>	<b>54.786,9</b>	<b>100,0</b>

Source: Green Economic Stimulus DataBase. Elaboration by us.

#### **4.1 Positive Impact**

In total, there are 12 positive measures, 8 being positive low and 4 positive high. In terms of monetary amounts, destined towards the region of the Amazon with a positive impact, around R\$ 443 billion are from budgetary actions and R\$4.9 billion of credits for financing, as shown in Quadrant 4.

## Quadrant 4: List of measures with a positive impact over natural capital

TYPE	MEASURE	RESOURCES (R\$) millions	CLASSIFICATION
Budget	Advancement and Fortification of the Productive Structuring of Family Farming, Small and Medium-sized Rural Producers	20,5	Positive low
	Support for the Development of Production for Sustainable Cattle Raising	0,25	Positive low
	Sustainable Development of the Bioeconomy + Inova Sociobio	2,2	Positive high
	Implantation of Infrastructure for Norte Conectados Projects	23,56	Positive low
	Support for Initiatives and Projects of Digital Inclusion	5,42	Positive low
	Magnification and Modernization of the Infrastructure for the study of Biodiversity, Technological Innovation, and Sustainability of the Amazonian Ecosystems in face of Global Changes	1,28	Positive low
	Support for the development of Programs and Projects in Scientific, Technological, and Innovation areas in the area of operations of Suframa	2,3	Positive low
	Foment Research and Development towards Innovation, Digital technologies and the Productive Process	0,3	Positive low
	Foment Institutional Projects for Research in the Amazon Region (CT-Amazônia)	0,62	Positive low
	Protection and Promotion of Indigenous Peoples Rights	2,34	Positive high
	Control and Environmental Oversight and Prevention of fires	384,58	Positive high
Grants and rural credit (Pronaf + ABC)		4.941,87	Positive high
<b>TOTAL</b>		<b>R\$ 5.385,27</b>	

Source: Green economic stimulus DataBase. Elaboration by us.

Two specific programs are being considered with the resource of R\$4.9 billions of grants and credits. Pronaf, which finances family farmers, and the ABC Program (Low Carbon Farming), which finances productive no tillage systems, recovery of degraded pastures, integration between agriculture-cattle raising-forestry, planting forests, among other models.

The financing of this type of farming tends to diminish the pressure over deforestation. Nevertheless, Pronaf and the ABC Program represent together less than 9.5% of the total amount of the Safra Plan<sup>23</sup> which directed R\$52.1 billion towards the nine states of the Legal Amazon between 2020 and 2021.



Photo: Orlando Júnior

<sup>23</sup> The Safra Plan is the principal national policy fomenting the development of farming. The plan defines the total resources for rural credit available in an annual cycle, which goes from July to June the following year.

In relation to the positive budgetary measures, there are some highlights:

- The budget of R\$2.2 million for the **Sustainable Development of the Bioeconomy** combined with **Inova SocioBio**, policy of the Amazonas State Government, should increase the participation of the small farmers, traditional peoples and communities and their enterprises, in the productive and economic arrangements involving the concept of bioeconomy in the state. Important to reemphasize that when compared to the same budgetary action of the previous year (2020), there was a 19.5% reduction.
- The implementation of the **Infrastructure for the Norte Conectado Projects**, should contribute to the policy “Amazon Connected”, which consists of implanting three thousand kilometers of fiber optics in the river beds of the region and on stretches of land. The measure is considered positive for natural capital for it contributes directly to the development of isolated communities stemming from a forest economy. Available resources in 2021 are of approximately R\$23.5 million, 45% less than was made available the previous year.
- There are some budgetary measures directed towards the area of research and development. The two main measures, which refer to (i) **magnification and modernization of infrastructures** for study and (ii) **to support projects in the scientific area** in general, also were reduced by 29.3% in available resources, in comparison to 2020. Therefore, even when taking into consideration the positive character of these measures for the development of research that favor natural capital, they are not being placed as a priority for economic development in the region.
- Resources destined for the **Protection and Advancement of Indigenous Peoples Rights** are fundamental for the valorization of natural capital in the region, because the indigenous populations demonstrably decisive in the preservation of the forest, where the deforestation rates measure up to being at least two thirds less than in other areas

<sup>24</sup> Desmatamento na Amazônia é 66% menor em terras indígenas, diz estudo. Deutsche Welle. Acesso em: agosto de 2020.

of the region (DW, 2020). Guaranteeing the security of the indigenous populations and the maintenance of the reservations and territories of the native peoples is an effective manner in which to take care of the forests, because it offers the necessary legal protection, making it less probable that these territories will be occupied, contested and coveted by companies that look to extract their natural resources.

- The cutting of resources for campaigns of Control and Environmental Oversight and Prevention of Fires, approved by LOA 2021 in April of the same year, caused reactions in diverse sectors of society and companies worried about the growth rates of deforestation over the last few years. Since then, negative internal and external repercussions made it so the budget for these actions almost doubled to the current amount of R\$384 million. These actions are fundamental to restrain illegal activities that induce deforestation in the biome and the deepening of social impacts derived from these practices.

## **4.2 Negative Impact**

---

While only R\$2.1 million are being allocated in measures with negative high impact, a large part of the total of resources analyzed in this study are negative low actions over natural capital in the Amazon, which corresponds to around R\$47.8 billion for boosting rural activities and fishing.

The Quadrant below shows that the grants and credits for the rural sector account for almost the totality of these resources, around R\$47.2 billion. This quantity was calculated for the nine states of the Legal Amazon, through information available on the site of the Central Bank of Brazil (BCB) between the period of July of 2020 and June of 2021, following the calendar of the Safra Plan.

## Quadrant 5: List of measures with a negative impact over natural capital

TYPE	MEASURE	RESOURCES (R\$) millions	CLASSIFICATION
Orçamento	Promotion of the farming sector	119,02	Negative low
	Development of the Productive Farming Supply Chains	2,0	Negative low
	Technical Assistance and Rural Extension	0,35	Negative low
	Research and Development of Technologies for Farming	1,2	Negative low
	Technological Transference for Farming Innovations	2,88	Negative low
	Foment Fishing Production and Fisheries	0,1	Negative high
	Development of Fishing Infrastructure and Fisheries	2	Negative high
Loosening in the use of Credit Letters for Agro-business (LCAs)		462,14	Negative low
Subvenções e crédito rural para o setor agrícola Grants and rural credit for the rural sector		47.211,18	Negative low
	<b>TOTAL</b>	<b>R\$ 47.800,87</b>	

Source: Green economic stimulus DataBase. Elaboration by us.



O governo privilegiou o agronegócio.

Foto: Freepik

The loosening in the use of the Credit Letters for Agro-Business (LCAs) refers to the measure by the BCB in combating the effects of Covid-19. As seen in item 3.2, in accordance with the bank, this measure has had an impact of R\$2.2 billion on the availability of credit on the whole of the national territory. As there is no specific information about the impact on the Legal Amazon states, this amount was estimated from the Safra Plan.

In the plan, the region is looked upon to have around 21% of the total resources. Thus, it can be said that of the R\$2.2 billion considered in this measure, around R\$462 million have had an impact on the amazon region.

Among the budgetary actions, resources are divided between farming and fishing. Around R\$2.1 million was identified as being allocated to this sector for actions to foment the production and development of fishing infrastructure. The emphasis is for the advancement of the farming sector that foresees around R\$119 million for 2021 in the region of the Amazon. This amount still may be increased, because there has been forecasted almost two billion of reais within the national scope not mentioning states, thus, they were not considered.

It is important to re-emphasize that, according to the Green Taxonomy Guide of Febraban, fishing and fishery activities do not contribute to a green economy for they are considered a high environmental risk. However, they are considered as an important axis of opportunity for the economic development of the Amazon, because, among other reasons, they possess a higher compatibility with the ecosystem of the region in contrast to cattle farming, for example (Instituto Escolhas, 2019)<sup>25</sup>. Even so, the understanding is it remains as a negative economic character.

The budgetary measures as well as the grants and credits directed towards the farming sector have a negative low impact, if in accordance with environmental legislation, because of the pressure they cause on the forests of the region, which threatens the biodiversity. As seen in the introduction of this research, it is not just from today that these activities are associated with deforestation and the redimensioning of the territory.

Add this to the fact that in the last three years deforestation rates in the Amazon have again begun to increase around 56%, in summation more than 35 thousand km<sup>2</sup> of deforested areas<sup>26</sup> (equivalent to 23 cities in São Paulo).

Taking a look at a period of time, between 2009 and 2019, areas of pasture in the region also increased by 19%, according to the Atlas of Brazilian Pastures (Lapig/UFG)<sup>27</sup>.

The region known as deforestation archway of the Amazon, coincides with the region where farming and cattle raising activities mostly have increased. Farming production in the region expanded in accord with the consolidation of commodities used for exportation.

Nonetheless, the view of many sectors in society is that there is no contradiction between conserving forests and increasing productivity of the sector though, in Brazil, there were existing pastures sufficient to meet a global demand for food. However, until this situation is not verified in the statistics regarding deforestation in the Amazon, the activity will continue to exercise negative impacts over natural capital.

However, until this situation is not verified in the statistics regarding deforestation in the Amazon, the activity will continue to exercise negative impacts over natural capital.



Photo: Dirce Quintino

<sup>25</sup> Choices Institute (2019). Uma nova economia para o Amazonas: Zona Franca de Manaus e Bioeconomia. São Paulo, outubro de 2019.

<sup>26</sup> Data from the National Institute of Spatial Research (INPE) referring to the period between 2017 and 2020.

<sup>27</sup> Available: <<https://pastagem.org/map>>

### 4.3 Undefined Impact

There is still around R\$1.6 billion with an undefined impact over natural capital, because it depends on how these budgetary actions will be implemented within public policy in the region. The quadrant to follow shows a list of these measures.

#### Quadrant 6: List of measures with an undefined impact over natural capital

MEASURE	RESOURCES (R\$) millions	CLASSIFICATION
Advancement of the Regional Economic Development of the Western Amazon and Municipalities of Macapá and Santana (AP)	0,32	Undefined
Social and Professional Qualification of Workers	0,1	Undefined
Implementation of Basic Infrastructure in the Municipalities of the Calha Norte Region	786,24	Undefined
Structuring and Revitalization of Productive Activities- National Integration Routes	0,20	Undefined
Support towards Local Integrated Sustainable Development Projects	66,06	Undefined
Management of Regional Development Policies, Territorial Framework and Irrigation	0,5	Undefined
Structuring and Revitalization of Productive Activities - National Integration Routes	2,56	Undefined
Support towards Restoring Construction and Projects, of Accessibility and Technological Modernization in Urban Areas	6,71	Undefined
Special Transfers	355,00	Undefined
Financing of Productive Sector Projects within the scope of the Amazon Development Fund - FDA	383,12	Undefined
<b>TOTAL</b>	<b>R\$ 1.600,81</b>	

Source: Green economic stimulus DataBase. Elaboration by us.

Some important considerations can be made in respect to these measures.

- The Implementation of Basic Infrastructure in the Municipalities of the Calha Norte Region counts on R\$786 million in resources. Know that the region possesses a lack of infrastructure. Directing these resources towards projects such as the opening of highways or the expansion of urban areas in the cities of the region has a strong reflection on the loss of biodiversity. Whereas applying these resources in sanitation projects or the improvement in management of urban waste, would bring positive results in the quality of water and soil.
- The budget of R\$66 million for **Support of Local Integrated Sustainable Development Projects**, of R\$2.56 million for the **Structuring and Revitalization of Productive Activities -National Integration Routes** and of R\$383, 12 for **Financing for Productive Sector Projects within the scope of the Fund of Development in the Amazon-FDA**, also not being possible to identify to which projects the monies are directed. One positive contribution for natural capital would be to invest in the structuring of an entire chain of bioeconomy in the region, fomenting new businesses from forests products until arriving at consumers markets.
- Finally, the **Special Transfers** possess resources near R\$355 million considered important for subnational entities. It is also not possible to identify where these transferences will be applied. Nonetheless, the municipality and state beneficiaries of these resources have the chance to contribute to natural capital if they invest in areas such as low carbon family farming, photovoltaic energy for communities without access or actions of fiscalization and control of deforestation.

#### **4.4 Estimate of the COVID Index of Green Recovery: positive spending in comparison to negative spending over natural capital**

---

Of these measures and amounts presented, it is estimated that only 9.8% of them had a positive impact over natural capital in the recovery of the Amazon, while the majority, 87.3%, ought to have a negative impact over natural capital.

There are nearly 2.9% of considered measures in which there is still uncertainty over how much impact they will have over natural capital in the Amazon, because it depends on how the resources are applied to the projects in the region.



Photo: Dirce Quintino

# 5. OTHER STIMULUS MEASURES FOR ECONOMIC RECOVERY IN THE AMAZON

The study considered still other measures that were implemented during the period of the pandemic, in which the monetary values were not considered or because they were not, in the case of regulatory acts, or because they refer to sources of diverse resources, like in the case of funds, donations, and concession of equipment for private initiatives, which makes difficult a comparative analysis with the previously aforementioned.

Even so, all of the measures to follow are considered relevant for natural capital and for a scenario of economic recovery in the Amazon. In the same way as in the previous item, they will be broached in accordance with their impact over natural capital.

## **5.1 With a Positive Impact**

---

Amongst the positives, there are a total of 15 measures, 5 being regulatory acts, 2 concessions and 8 of funds and donations. While the regulatory acts were applied towards different themes equally, the concessions went to the Forestry and Sanitation sectors, and the funds predominantly to Forestry, but also with projects in Bioeconomy.

It is important to emphasize that the funds and donations are policies of public organs, but contain resources from other actors, be it private or even international organizations.

In the following quadrants, it is shown the details of the number of measures and the list classifying them in relation to their impact over natural capital.

**Quadrant 7 - Positive economic stimulus measures over natural capital, according to them**

THEMES	Regulatory Acts	Concessions	Funds and Donations	Total in General
Farming	1			1
Bioeconomy			2	2
Energy	1			1
Forestry		1	6	7
Infrastructure	1			1
PD&I	1			1
Sanitation	1	1		2
<b>Total in General</b>	<b>5</b>	<b>2</b>	<b>8</b>	<b>15</b>

Source: Green economic stimulus DataBase. Elaboration by us.



Photo: Dirce Quintino

## Quadrant 8 - List of positive economic stimulus measures over natural capital

THEME	MEASURE	TYPE	CLASSIFICATION
Farming	New rules for socio-environmental risk for rural credit	Regulatory Act	Positive high
Bioeconomy	Bioeconomy and Supply Chains of Value	Funds and Donations	Positive high
Bioeconomy	Fund for Sustainable Development and the Bioeconomy	Funds and Donations	Positive high
Energy	Decree nº 10.221, of February 2020 (More Light for the Amazon)	Regulatory Act	Positiva baixa
Forestry	Concessão Floresta Concession Forest Humaitá	Concession	Positive high
Forestry	Forest +	Funds and Donations	Positive high
Forestry	Protected Areas of the Amazon Program (ARPA)	Funds and Donations	Positive high
Forestry	Sustainable Landscapes of the Amazon	Funds and Donations	Positive high
Forestry	Project “Environmental Regularization of Rural Properties in the Amazon and in Transition areas for the Savannah”	Funds and Donations	Positive high
Forestry	Adopt a Park	Funds and Donations	Positive high
Forestry	Subsidies for the production of rubber and murumuru palm tree	Funds and Donations	Positive high
Infrastructure	Decree Nº 10.387, 5th of June 2020	Regulatory Act	Positive low
PD&I	Decreto Decree 10.521, of October of 2020	Regulatory Act	Positive low
Sanitation	Normative Instruction Nº 40, of the 17th of December 2020	Regulatory Act	Positive high
Sanitation	Concession of distribution of water and sewer- Amapá	Concession	Positive low

Source: Green economic stimulus DataBase. Elaboration by us.

For every one of the measures listed above, to follow is a brief analysis of the classification and, for each principal measure, a box containing more details about the policy.

A positive measure in the theme of Farming, refers to the **new rules of the Central Bank for the concession of rural credit** that incorporates more robust socio-environmental criteria, before conceding the credit. This alteration counts as a directive for public and private banks and tends to increase the degree of demands for rural producers to get access to credit, while enforcing environmental legislation.

There are two important measures in Bioeconomy that have contributed towards fomenting projects in this area in the Amazon. The first refers to **Bioeconomy and Supply Chains of Value**, partnership of MAPA with the German Cooperation for Sustainable Development (GIZ), with available resources of about 5 million euros, coming from the Federal German Ministry of Economic Cooperation and Development, up to 2024. While the second measure refers to the **Fund for Sustainable Development and the Bioeconomy**, with an initial expected endowment of US\$20 million for technical cooperation and elaboration of projects.

### **Bioeconomy and the Supply Chains of Value**

Project in partnership with the German Cooperation for Sustainable Development (GIZ) with the objective to expand the commercialization of products from cooperatives and community associations, of supply chains of value of the bioeconomy in the Amazon. The project assures the sale of the production by means of other traditional programs of the Federal Government, such as the National Program for School Meals (PNAE) and the Program for the Acquisition of Sustenance (PAA) present in the whole country.

### **Fund for the Sustainable Development and Bioeconomy of the Amazon:**

Announced in March of 2021 by the Interamerican Bank of Development (BID) the creation of this fund to develop economic projects that establish the foundation for a local economy, based on forest assets, biodiversity and low emissions in the Amazon. The resources should be utilized to stimulate the bioeconomy and promote innovative financial instruments that attract investments to the region. The expectation is that the sum to be loaned for sustainable projects in the region reach a level of US\$1 billion.

In the sector of Energy, a decree recently instituted the **More Light for the Amazon Program**, a positive low measure that should stimulate the installation of solar panels and batteries in the isolated regions of the Amazon, which currently are met in large part by generators and diesel.

### **More Light for the Amazon**

The Ministry of Mining and Energy (MME), in technical cooperation with the BNDES, structured a model program that was submitted to the Green Climate Fund at the end of 2020 to raise resources, but it is still in an analysis phase.

In accordance with information from the news agency of the government, the total cost budgeted revolves around the amount of R\$3 billion. The goal is to reach up to 82 thousand families in remote areas, benefitting approximately 350 thousand people, giving priority to those enrolled in social programs and residing in protected areas (Valente, 2020).

The financing has two verticals. One of them is directed towards energy distributors for the installation of necessary infrastructure. The other is focused on local communities, aiming to provide technical assistance for the preparation and implementation of sustainable projects in productive activities in the benefitting location.

The Forestry sector possesses the largest number of identified positive measures. There are seven in all, six being of the type, funds and donations (6) and one is a concession.

Those that are in the category of funds and donations are policies of the MME and MAPA which depend on external resources for the federal budget. Among them are (i) Forest +, (ii) Protected Areas of the Amazon Program (ARPA), (iii) Sustainable Landscapes of the Amazon, (iv) Environmental Regularization of Rural Properties in the Amazon and in Transition areas for the Savannah, and (v) Adopt a Park.

### **Forest +**

The Ministry of the Environment (MMA) instituted in July of 2020, by means of ordinance nº 288, a National Payment program for Environmental Services - also known as Forest +. The program is one of the principal banners of MMA to contain the recurring critiques about the increase of deforestation in the Amazon. The idea is to pay whoever has an excess area to the legal reserve, to maintain the forest standing. Serves as a tool to stimulate conservation and the adequate management, valuing activities for protection and sustainable use of the environment. The resources for the program originate from a multilateral fund for climatic changes, the Green Climate Fund – GCF<sup>28</sup>, demanded by the previous government, in 2018, and approved in 2019 by the current federal administration. The program possesses \$500 million to implement payments for environmental services.

<sup>28</sup> Global Initiative between 194 countries to limit or reduce greenhouse effect gas emissions in developing countries and to help adapt vulnerable societies to the impacts of climatic changes.

### **Protected Areas of the Amazon Program (ARPA)**

Program of the Federal Government, coordinated by the Ministry of the Environment (MMA) financed by resources from the Global Environment Facility (GEF), of the Amazon Fund, of Gordon & Betty Moore Foundation and the private group Anglo American. The program has as its objective to secure financial resources for the management of protected areas in the short and long term. Recently, it was announced the possible suspension of the Protected Areas of the Amazon Program (ARPA), because the contract that supports the financial execution of the program expired on the 31st of march 2021 (Menegassi, 2021). In accordance with the Biennial Report of the Financial Necessities of Arpa 2020/2021, the forecasted disbursement for 2021 was to be around R\$35 million.

### **Adopt a Park Program**

In February of 2021, the Federal Government launched the Adopt a Park Program, making possible for people, and national and foreign companies, to contribute financially to the protection of some parks. The interested party pledges, for the period of one year, to pay R\$50 or €10 per hectare of land and, in this first round, 132 parks were made available in the Legal Amazon. According to the government, these resources are applied in actions to combat fires, deforestation, recovery of degraded areas, reconstruction of enclosures and bridges (Planalto, 2021).

It has already been announced the referral of 8 adoptions of parks. Among the companies that emerge: Carrefour, Heineken, Coca-Cola Brasil, MRV Engenharia, Caixa Econômica Federal, and others.

In relation to the **forest concessions**, previewed in the PPI, this measure would be considered as negative high, in accordance with the analysis matrix, because the extraction of wood from the native forest does not further a green economy and presents high exposure to environmental risk in accord with the Taxonomy Guide.

In contrast to the classification initially previewed, given the justification above, here it was opted to consider as a positive high because is a theme that has begun to be amply discussed within natural capital perspectives, principally with a focus on **the Amazon; the forest concessions allow that private entities, associations, and cooperatives explore economically determined public areas, constituted as Protected Area via a management plan**. This regulation has already existed in Brazil since 2006 through the Law of Forest Management, and now is being altered by the Bill (PL) N.º 5518/2020 an initiative from the Parliamentary Environmentalist Front, in the House of Representatives.



Photo: Rodolfo Pongelupe

The PL provides more agility to the bidding process, flexibility to the contracts, and attractiveness to the business model of forestry concessions. It also creates stimuluses that guarantee the participation of smaller companies envisioning a larger involvement by the local communities.

This model of exploration of the forests has been indicated by various environmental organizations<sup>29</sup> as an alternative that contributes to combating the **illegal commerce of wood** in the Amazon, because it incentivizes the legal production while the forest is preserved and jobs are generated, in a scenario where the **public areas are the large focus of illegal deforestation and squatting**.

Beyond that, the payments made to the Union for the exploratory right of the forests by the concessionaires, are destined towards the states and municipalities where the forests are located, by way of the National Fund of Forest Development and the Chico Mendes Institute of Conversation of the Biodiversity (ICMbio).

In the Infrastructure sector, the only measure with potential to have a positive impact is the **Decree Nº 10.387**, 5th of June 2020 that considers a priority the projects with investment in the area of infrastructure or intensive economic production in research, development, and innovation, which provide environmentally or socially relevant benefits. In practice, the decree creates mechanisms for the emission of green debentures, establishing more favorable conditions to obtain financing in a manner to promote the implantation of new sources of renewable energy, basic sanitation infrastructure, among other necessary projects in the region of the Amazon.

In the area of Research, Development and Innovation (PD&I), the measure raised refers to the **Decree Nº 10.521** October 2020, which increases the investment options for companies with a fiscal benefit, in the Free Zone of Manaus to invest in activities of research, development and innovation in the Western Amazon or in the State of Amapá.

<sup>29</sup> See more in: PL of Forestry Concessions, protocolled in Congress, with contributions from the Brazil Coalition in: Brazil Coalition Climate Forestry and Farming, 22/01/2021 and Sustainable Forestry Management can supplement current demand for produced wood in Pará, points out study, in G1, 14/05/2021.

With this decree, the activities of the PD & I look to foment new alternatives to the model of the Industrial Hub of Manaus (PIM) and will be considered apt to receive fiscal benefits until at least 2028. The other important aspect is that the decree establishes as a minimum investment of 15% from the beneficiary companies to be inputted outside the metropolitan region of Manaus.

Now in relation to the two Sanitation measures, one of them refers to the **concession of water and sewer distribution in Amapá**, pertaining to the portfolio of the Hub of Projects of the BNDES, expected to happen in the second semester of 2021, in accordance with the 16<sup>a</sup> Council Meeting of the PPI. The second is the **Normative Ruling Nº 40, 17th of december 2020**, which makes available the approximate amount of R\$380 million for the north region, destined to finance enterprises that make up part of the Sanitation for All Program of the Federal Government.

## **5.2 With a Negative Impact over Natural Capital**

In relation to the negative measures implemented for natural capital in the context of the pandemic, there were 20 in total identified among regulatory acts and concessions.

Differently from the positives, in this case, there are no measures from funds with a negative impact, while regulatory acts and concessions have been widely utilized as negative measures.

Ten regulatory acts have been executed for the sectors of Farming, Forestry, Infrastructure, Fishing, and Mining, with an emphasis in the last with four acts. Though with the eleven expected concessions, nine are Infrastructure projects and two are Mining.

Details about each of these measures are described after the following quadrants.

**Quadrant 9 - Negative economic stimulus measures over natural capital, according to theme**

<b>THEMES</b>	<b>Regulatory Acts</b>	<b>Concessions</b>	<b>Total in General</b>
Farming	1		1
Forestry	2		2
Infrastructure		9	9
Mining	4	2	6
Fishing	2		2
<b>Total in General</b>	<b>10</b>	<b>11</b>	<b>20</b>

Source: Green economic stimulus DataBase. Elaboration by us.



Credits: Freepik

## Quadrant 10 - List of negative economic stimulus measures over natural capital

THEME	MEASURE	TYPE	CLASSIFICATION
Farming	Act nº 42, 22nd of July 2020 by the Coordinator-General of Pesticides and Alike	Regulatory Act	Negative high
Forestry	Resolution nº 495, 19th of August 2020	Regulatory Act	Negative high
Forestry	Normative Joint Ruling MMA/IBAMA/ICMbio Nº 1, 12th of April 2021	Regulatory Act	Negative high
Infrastructure	1º Auction of Concessions for Broadcasting Installations of 2021 (5 lots, 1 in AM)	Concession	Negative low
Infrastructure	Terminal lease for Porto de Santana/AP	Concession	Negative low
Infrastructure	Port Terminal lease for Vila do Conde/PA	Concession	Negative low
Infrastructure	Port Terminal lease for Vila do Conde/PA	Concession	Negative low
Infrastructure	Concession 7 Bloco Norte Airports	Concession	Negative low
Infrastructure	Concession fishing terminal in Manaus/AM	Concession	Negative low
Infrastructure	Concession fishing terminal in Belém/PA	Concession	Negative low
Infrastructure	Construction of the Grain Railway	Concession	Negative high
Infrastructure	Concession BR-163/MT and BR-230/PA	Concession	Negative low
Mining	Resolution nº 37, 4th of June 2020	Regulatory Act	Negative high
Mining	Resolution Nº 45, 3rd of September 2020	Regulatory Act	Negative high
Mining	Resolution Nº 46, 8th of September 2020	Regulatory Act	Negative high
Mining	Decree Nº 10.657, 24th of March 2021	Regulatory Act	Negative high
Mining	Concession of mining rights Caulim de Rio Capim/PA	Concession	Negative high
Mining	Rounds of Available Areas for research or mineral mining from the National Agency of Mining	Concession	Negative high
Fishing	Normative Ruling SAP/MAPA nº 19, 13th of August 2020	Regulatory Act	Negative high
Fishing	Portaria Ordinance Nº 221, 15th of September 2020	Regulatory Act	Negative high

Source: Green economic stimulus DataBase. Elaboration by us.

The only measure classified as negative in Farming refers to the **Act nº 42**, 22nd of July 2020 of the Coordinator-General of Pesticides and Alike loosening the classifications of various pesticides and allowing more wide use in rural activities.

Among the two negative measures brought up in the them Forestry, includes the Normative Joint Ruling MMA/IBAMA/ICMBIO **Nº 1, 12th of april 2021** which modifies the methodology of fiscalization and verification of administrative environmental infractions caused by federal environmental organs, introducing shorter time periods for analysis and demanding the elaboration of a fiscalization report before the notice of violation, which inverts the original order of the acts. And the **Resolution N.º 495, 19th of august 2020**, which extends exceptionally 12 months the profiteering by forestry management, during the period of the coronavirus pandemic.

In the theme of Infrastructure, there are nine negative measures, all related to concession venture projects, among which include **broadcasting lines, port terminals, fishing terminals, airports, and highways**, all classified having a negative low impact. The only measure classified as negative high refers to the construction of a railway between Mato Grosso and Pará (Grain Railway). The layout of the project is a target of recurring critiques for direct environmental impact in Protected Areas (ISA, 2020).

In the Mining sector, there are six identified measures, between regulatory acts and expected concession projects, all can be classified as having a potential of **negative high impact** in the region of the Amazon in accordance with the proposed methodology.

In the concessions, some projects that have already passed through public hearings are in municipalities that appear on the priority lists for prevention, monitoring and control of deforestation actions. It is the case of Humaitá/AM e Apuí/AM, which have the largest areas of predicted exploitation rounded at 9.955,36 ha and 7.053,53 ha, respectively. There are still large areas such as these in Pará, Mato Grosso, Rondônia, and Tocantins, all incorporated in the Legal Amazon.

Beyond this, the implemented normatives during the analysis period tend to **weaken the environmental governance of these mining projects**. One example is the **Decree Nº10.657 24th of march 2021**, which instituted the Policy of

support to Environmental Licensing and the Inter Ministerial Committee of Project Analysis of Strategic Minerals (CTAPME) without, however, counting on any representation from the environmental area (Policy for the Whole, 2021).

Finally, in relation to the Fishing sector, two regulatory acts were classified as negative high, keeping an understanding from the Taxonomy Guide for this type of activity, and only one measure was considered as positive, referring to the fish-farming courses in the quilombola community Mel da Pedreira, initiative of the State Government of Amapá, due to the low impact of this activity.



Photo: Dirce Quintino

## 6. CONCLUSION AND RECOMMENDATIONS

The available and presented data in this study shows that, in the context of the pandemic, the Brazilian government lost the opportunity to direct the spending and valorization policies of natural resources. The government favored investments to more consolidated sectors, which contributed negatively over natural capital.

Farming has been the principal economic sector prioritized. Brazil is one of the main suppliers of global foods and the Amazonian Region is responsible for part of the national production. The consequences, as seen, led to increase pressure over the forests of the region.

Added to that, the political representation and influence of the rural sector in legislative and federal powers, in the attempt to loosen environmental legislation allowing the advance of rural production over the forest. The most recent being the Bill n.º 2.633/2020, known as PL of Squatting, proceeding in the National congress. The PL gives amnesty and legalizes invasion of public lands, threatening not just biodiversity but also traditional, indigenous, and quilombola communities.

The research also shows that the mining sector, though important to the economy of the region, has been covered by legislative acts that favor this activity with an evident negative impact over natural capital. The same can be said about proposed infrastructure projects which make up a major part of highway concessions and a railroad that stimulates occupation in its vicinity, and the subsequent increase in deforestation.

In contrast to the aforementioned infrastructure projects, one would be to increase the investment in sanitation for a region with the worst indexes of access in the country, which directly affects the quality of the water in the rivers and streams, principally in the urban centers of the Amazon.

Also rarely discussed in the decision-making, the amazonian bioeconomy might be one of the opportunities with the most potential for economic growth in the region, nonetheless the study shows that there remains few budgetary resources applied by the government, compared to large-scale farming.

As informed previously, the absence of leadership by the Federal Government in advancing a green economy led to the governors of the states of the Legal Amazon to launch, in july of 2021, the Green Recovery Plan (PRV) including directives and priorities for the region. It is still not defined where the resources will come from, although the plan lays out a governance for management of the fund with public or private financing, internal or external. This plan is based on four axes: (i) curbing deforestation, (ii) sustainable productive development, (iii) green technology and training, and (iv) green infrastructure.

The PRV comes to meet one of the principal objectives of this study: to contribute, through decision-making arising from subnational governments, for a scenario of green post-pandemic economic recovery. Thus, the recommendations to follow are in consonance and serve as a supplement and propagation of the Green Recovery Plan of the Interstate Consortium of Sustainable Development of the Legal Amazon.

## **AXIS 1 – CURBING ILLEGAL DEFORESTATION**

**Study Recommendation:** Strengthening of the monitoring and deforestation control policies in consonance with the axis curbing to legal deforestation of the PRV, generating less gas emissions of greenhouse effect and reducing socio-economic and socio-environmental impacts

- Budget spending and of the funds and donations have prominent representativity in the positive activities over natural capital in the Amazon and should remain. The principal recommendation here is to strengthen budgetary actions related to the preservation and monitoring of the Amazonian Forests, but not only this.
- To avoid illegal deforestation of the forests it is necessary to create economic alternatives in order to maintain the forests standing. The forestry concessions can be a possibility for communities in the

vicinity, if there is control in the management of the entire operation, as seen in the item that addresses this type of project.

- The payment for environmental services is another model that has gained momentum. By means of the Forest + Program, the federal government lays out monetary resources to initiate, making it important still the need to structure it in order to guarantee its permanence long-term. For this, the existing funds can raise resources for this type of policy.

## AXIS 2 – SUSTAINABLE PRODUCTIVE DEVELOPMENT

**Study Recommendation:** Magnification and fostering of grants and credits for low carbon family farming in consonance with the axis of sustainable productive development of the PRV, guaranteeing a just and sustainable economic transition.

- Emphasize the relevance of farming as an economic sector, focal point for economic incentives in the region, but it is up to the decision-makers to increase the participation of Low Carbon Farming at the forefront of the resources that are directed towards commodity farming, be it through specific budgetary lines that foment this type of activity in local public policy, or by establishing goals and minimum quantitative targets in rural credits focused in agroforestry systems. The campaign looks to restructure rural activity with a focus in the reduction of environmental damage and to strengthen food security.
- Target - public organs: Ministry of the Economy (ME), Ministry of Farming, Cattle Raising, and Supply Chains (MAPA), Embrapa, State finance and agriculture secretaries.

## AXIS 3 – GREEN TECHNOLOGY AND TRAINING

**Study Recommendation:** Strengthening and development of the supply chains of value in bioeconomy in consonance with the axis green technology and training of the PRV, generating more employment through the training of local labor.

- The bioeconomy is one of the principal activities with potential to reach a green recovery in the Amazon, however, public spending is very underdeveloped and is concentrated in MAPA. For this, it is recommended that the sector occupies a strategic position while intersector public policy for development of different productive supply chains, in forestry, food and beverage, pharmaceutical, cosmetics, bioenergy, among others. In practice, it means not only increasing monetary resources, but also investing in research, development, and innovation, aiming to become more viable businesses. These actions are necessary in order to decrease the risks that still exist along the supply chains of businesses in bioeconomy.
- The Federal Government can also create innovative investment mechanisms through a new model of governance, involving subnational governments, philanthropic entities, and private companies.

#### **AXIS 4 – GREEN INFRASTRUCTURE**

**Study Recommendation:** Project Modeling of green infrastructure in consonance with the axis of green infrastructure of the PRV starting from investments in more efficient technology in the use of natural resources

- Green infrastructure contrasts with the headline “grey infrastructure” and, prevents its damages (flooding, mudslides, drought, pollution, high consumption of energy) and improves the life conditions of the local population, through depollution of the rivers, promoting the recovery of the quality of air, access and space creation of green leisure, promoting the generation of new jobs and the valorization of local tourism, among other things.
- The PRV is the principal instrument that can guide investments in this sector, as it already possesses designed programs. The present study highlights two important sectors that need to be put forward, connectivity and sanitation. The first had its’ budgetary funds reduced in 2021, compared to the previous year, and it should be fortified in the short-term. The second needs to be a priority, because it is one of the indicators that most exemplifies the structural inequalities of the Legal Amazon region. In this respect, the Hub of Projects

of the BNDES, can contribute in the modeling of new enterprises in order to attract public and private investment. Another stimulus for the infrastructure sector can come through the issuing of green debentures.

- The study still shows that concessions are an important instrument for the improvement of the quality of regional infrastructure, however, it has shown to be insufficient in order to reach green alternatives as shown. It is recommended that the projects with a negative impact over natural capital give space to alternatives with a positive impact (ex.: basic sanitation, urban mobility, regional integration, tourism, etc.). The budgetary lines classified as undefined, can and should be allocated to green infrastructure projects.



Photo: Rodolfo Pongelupe

# REFERENCES

Adeodato, Sérgio (2019). Repairing the Amazon. Institutional Portraits-Bioeconomy.

Brazil (2020). Supplementary Law 173 27th of may 2020. Federal Program for Facing Coronavírus SARS-CoV-2 (Covid-19).

Brazil (2020a). Decree n. 10.387, 5th of june 2020. Financial Incentive for the financing of infrastructure projects with environmental and social benefits. Official Journal of the Union.

Brazil (2020b). Decree n. 10.221, 5th of february 2020. Institute the National Program of the Universalization of Access to Electric Energy in the Legal Amazon - More Light. Official Journal of the Union.

Brazil (2020c). Decree 10.521 october 2020. Official Journal of the Union.

Brazil (2021). Normative Joint Ruling MMA/IBAMA/ICMBIO n.1, 12th of april 2021. Official Journal of the Union.

Brazil (2021a). Decree 10.657 24th of march 2021. Institute a Policy of Support for Environmental Permit for investment projects for mineral production. Official Journal of the Union.

Brazil (2021b). Law n. 14.144, 22th of april 2021. Volume IV. Detailing of the Campaigns.

BID (2021). Interamerican Bank of Development launches initiative for sustainable development in the amazonian region. Press Release. 18th of march 2021. Available: < <https://www.iadb.org/pt/noticias/bid-lanca-iniciativa-para-o-desenvolvimento-sustentavel-da-regiao-amazonica>>.

DW (2020). Deforestation in the Amazon happens 66% less in indigenous lands, says estudo. Deutsche Welle, august 2020. Available: <<https://www.dw.com/pt-br/desmatamento-na-amaz%C3%B4nia-%C3%A9-66-menor-em-terras-ind%C3%ADgenas-diz-estudo/a-54529124>>.

FAS and GEC (2020). Too Big to Fail: Transforming the Amazon's Economy from Deforestation-Driven to Inclusive and Green.

Febraban (2021). Explanatory Guide of Green Taxonomy. Characterization of the financial activities by the banking sector from socio-environmental to climatic aspects. January 2021.

GEC (2021). Green Economy Coalition. Green Economy Tracker. Available: <<https://greeneconomytracker.org/>>.

Lok, M., Benson, E., Gough, M., Ahlroth, S., Greenfield, O., Confino, J., and Wormgoor, W., (2018). Natural capital for governments: what, why and how. 4 de fevereiro de 2019.

Lovejoy, T.; Nobre, C. (2018). Amazon Tipping Point. Science Advances, 21 Feb 2018, Vol 4, Issue 2.

IBGE (2018). Brazilian Institute of Geography and Statistics. System of Regional Accounting.

Choices Institute (2019). A new economy for the Amazon: Free Zone of Manaus and Bioeconomia. São Paulo, october 2019.

ISA(2020). Study reveals the non-dimensional, socio-environmental risks of the Grain Railway. Socio-environmental Institute, 11th december 2020. Available: <<https://www.socioambiental.org/pt-br/noticias-socioambientais/estudo-revela-riscos-socioambientais-nao-dimensionados-da-ferrograo>>.

Menegassi, Duda (2021). ARPA Program, which supports protected areas in the Amazon, suspended. ECO, 11th of april 2021. Available: <<https://www.oeco.org.br/reportagens/programa-arpa-que-apoia-unidades-de-conservacao-na-amazonia-e-suspenso/>>.

Ministry of the Economy (2020). Twelve government task forces that reduce the economic impact of the pandemic. Ministry of the Economy, 29th april 2020. Available: <<https://www.gov.br/economia/pt-br/assuntos/noticias/2020/abril/doze-forcas-tarefa-do-governo-reduzem-impacto-economico-da-pandemia>>.

Ministry of the Economy (2020a). Brazil is in a consistent process of economic recovery, assures Guedes. Ministry of Economy, 10th of november 2020. Available: <<https://www.gov.br/economia/pt-br/assuntos/noticias/2020/novembro/brasil-esta-em-consistente-processo-de-recuperacao-economica-assegura-guedes>>.

Ministry of the Economy (2020b). Federal Government prioritizes investment agenda, and public concessions, says PPI. Government of Brazil, 10th of June 2020. Available: <<https://www.gov.br/pt-br/noticias/financas-impostos-e-gestao-publica/2020/06/governo-federal-prioriza-agenda-de-investimentos-e-concessoes-publicas-diz-ppi>>

Ministry of the Economy (2020c). Special Bureau of the Treasury, Ministry of the Economy. Presentation 22nd of December 2020 - Analysis of Fiscal Impact of the Measures in Facing Covid-19. Available:<<https://www.gov.br/economia/pt-br/centrais-de-conteudo/apresentacoes>>.

OCDE (2021). The OECD Green Recovery Database: Examining the environmental implications of COVID-19 recovery policies. 19 de abril de 2021.

Oviedo, Antonio; Lima, William Pereira; Augusto, Cicero (2019). The archway of deforestation and its branches. Socio-environmental Institute, São Paulo.

Policy as a Whole (2021). Adopt a park and its protocols of intent; toppled by vetoes of the PSA; and more. Weekly Bulletin 31, 20th of March 2021. Available: < <https://www.politicaporinteiro.org/2021/03/20/boletim-semanal-31/>>.

Steele, Paul; Debnath, Ishani (2020). Undertaking a Global Assessment on the Integration of Natural Capital into Government Economics. Scoping Report. IIED.

National Treasury (2021). Transparent National Treasury. Monitoramento Monitoring of Spending by the Union Combating Covid-19.

Vale, M., Berenguer, E., Argollo, M., et al. (2021). The COVID-19 pandemic as an opportunity to weaken environmental protection in Brazil. Ecology Department, Federal University of Rio de Janeiro.

Viana, V., Viana, C., Euler, A., Grieg-Gran, M., and Bass, S. 2014. Green Economy in the State of Amapá, Brazil: advances e perspectives. IIED Country Report. IIED, London. <http://pubs.iied.org/16575PIIED>

Vivid Economics (2020). Greenness of Stimulus Index. An assessment of COVID-19 stimulus by G20 countries and other major economies in relation to climate action and biodiversity goals.

WEF (2020). The Future of Nature and Business. The New Nature Economy project. In collaboration with AlphaBeta.



Photo: Marcio James



# Foundation for Amazon Sustainability (FAS)

Founded in 2008, the Foundation for Amazon Sustainability (FAS) is an NGO and non profit promotes the sustainable development in the Amazon. Recognized as an entity of social assistance, FAS works to guarantee the rights of the native populations by means of productive sustainable projects and through research campaigns, development, and innovation.

The foundation was born from a partnership among various institutions, among them Petrobras. Bound to the Objectives of Sustainable Development (ODS), the actions cover a global scale, amazonian and local, focusing on the following axis: health, education and citizenry, communitary empowerment, income generation, community infrastructure, environmental conservation, management and transparency, research, development, and innovation.

FAS contributes to the environmental conservation of the Amazon, valuing the upright forest and the well-being of the riverside communities, with implementation and dissemination of knowledge that envisions sustainable development. The objective is to transform into a global reference of solutions for sustainable development in the Amazon, by way of valorization of the upright forest, communitary empowerment and by increasing and fortifying partnerships.

## **Mission**

To contribute to the environmental conservation of the Amazon through the valorization of the upright forest and its biodiversity and the improvement of the quality of life of the riverside communities associated with the implementation and dissemination of knowledge about sustainable development.

## **Vision**

To be a global reference of solutions for sustainable development in the Amazon, by way of valuing the upright forest and its biodiversity, community empowerment and by increasing and fortifying partnerships.

**Confer the programs of the FAS:**

<p><b>Program of Management and Transparency (PGT)</b></p>	<p>By means of management mechanisms and forums, the PGT works together with the inner community, with planning and evaluation of results of programs and projects.</p>
<p><b>Program Upright Forest (PFP)</b></p>	<p>The PFP is focused on four strategic actions: income generation, entrepreneurship, infrastructure and community empowerment.</p>
<p><b>Program of Health in the Forest (PSF)</b></p>	<p>Result of the actions of Amazon Covid Alliance, the PSF qualifies the access to health care, with public policies and professional training in the area.</p>
<p><b>Program of Education for Sustainability (PES)</b></p>	<p>The works of PES are directed towards the education of children and adolescents, guaranteeing opportunities for a more inclusive and quality education.</p>
<p><b>Program for Innovative Solutions (PSI)</b></p>	<p>With a base in social technologies and solutions for sustainability PSI was developed, whose works focus on technical partnerships in PD&amp;I.</p>
<p><b>Program for Entrepreneurship and Sustainable Businesses (Pensa)</b></p>	<p>PENSA aids entrepreneurs of riverside communities and indigenous people with an incubator, courses, workshops and consultancies to manage innovative businesses and access credits.</p>



### Contact:

Manaus / Amazonas

Rua Álvaro Braga, 351 Parque 10 | CEP 69054-595 |

(92) 4009-8900 / 0800 722-6459

[fas@fas-amazonas.org](mailto:fas@fas-amazonas.org) | [fas-amazonia.org](http://fas-amazonia.org)



[/fasamazonia](#)

Partnership:

