btg pactual

Sector Policy: Forest and Timber Extraction

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1. Policy's Purpose

BTG Pactual drafted this Policy with several policies to identify the social, environmental and climate risks of its many operating segments, complying with the principles and grounds outlined in its Social, Environmental and Climate Responsibilities Policy.

To prepare each Sector Policy, a detailed analysis was carried out of the social and environmental issues involving BTG Pactual's many operating segments during all stages of its production processes, i.e., from opening new areas and obtaining raw materials, throughout the production, distribution and closing of all business activities. To this end, reports and documents were consulted from the sector's main players, such as IFC guidelines, international references for social and environmental risk analysis and technical knowledge of BTG Pactual's internal team.

The Forestry and Timber Extraction Policy ("Policy") establishes the eleven social and environmental aspects relevant to the forestry and timber sector and classifies them according to their relevance regarding risks and opportunities for this economic segment. This policy will be reviewed periodically within a period no longer than 3 (three) years.

2. Application Scope

This Policy must be applied by the ESG team, considering the relevance and proportionality principles in all segments of BTG Pactual worldwide that have entered or intend to enter into a relationship with legal entities and/or individuals in the forestry and timber sector. This includes but is not limited to, those carrying out production, marketing, maintenance, storage and disposal activities.

3. Notes on the Sector

According to the Brazilian Institute of Geography and Statistics, Brazil has about 10 million hectares of planted forests, 96% planted with eucalyptus and pine species (75.2% eucalyptus and 20.6% pine).[1]

In comparison with world data, Brazil participates with 2.67% of the total forest plantations worldwide and is among the nine largest farmers. From 1990 to 2010, its forest plantation area was increased at 1.8% average annual rate in Brazil, while the same rate worldwide is 2.1%.[2]

The Brazilian Tree Industry estimates are for every 1 hectare of forest planted for profit, around 0.7 hectare is conserved in Brazil[3]. This guide also indicates that forests, regardless of purpose, promote various ecosystem services such as removing carbon from the atmosphere ("carbon sequestration"), one of the main tools against climate change, water flow regulation, soil conservation, and biodiversity maintenance .

[1] Information from the Publication of the Brazilian Forest Service "Forests of Brazil in Summary 2019".
[2] Information from EMBRAPA's Publication Florestas: "Plantações Florestais: Geração de Benefícios com Baixo Impacto Ambiental" available at:< https://iba.org/datafiles/publicacoes/pdf/estudo-embrapa.pdf>.
[3] Booklet "The Planted Tree Industry and Climate Change" is available at: < https://iba.org/datafiles/publicacoes/pdf/info-mudancas-climatica- 2018.pdf >.

Regarding the segment's relationship with climate change, its positive impact is clear. According to a EMBRAPA's study , planted forests have been presented as measures to mitigate climate change by eliminating burning necessary to prepare the soil for use in pasture and agriculture. There are examples of carbon credit projects linked to planted forests, areas were originally degraded pastures. Another positive contribution of the segment to climate change is using wood for civil construction, replacing traditional materials such as steel and concrete. This replacement can save up to 0.5 tons of CO_2 per square meter of construction.

For purposes of this Policy, planted forests are considered to be rural areas containing trees cultivated for commercial or industrial purposes (examples: eucalyptus and pine, teak and rubber tree for sale). Timber extraction is understood as the activity of forest harvesting.

4. Social and Environmental Aspects

Below, we list the eleven most relevant topics in this sector that BTG Pactual will analyze.

4.1. Impacts on Native Vegetation

Implantation of forest plantations and construction of internal roads on rural properties may involve land use change and converting areas of native vegetation, degraded areas, or areas of diverse commercial use (e.g., pasture or short cycle crops) to forest plantations. The conversion of land use must respect specially protected areas - such as legal reserve areas, permanent preservation areas ("PPA"), conservation units, and arboreal individuals under special protection, such as the Atlantic forest[4] and *pequi* (*Caryocar brasiliense*) in the state of Minas Gerais[5], limiting them to prevent suppression from occurring in these locations.

To remove any vegetation, authorization is required from competent environmental agencies, which may require the carrying out of complementary studies and, in some cases, the Environmental Impact Study. Suppose these measures do not occur and the Rural Environmental Registers' indication of preservation of legal reserves and PPA are not maintained. In that case, [6]there may be a legal risk (levy of fines) and operational risk (levy of penalties such as suspension of activities and embargo of the area).

As an environmental impact, the implantation of forest plantations and/or the construction and maintenance of internal roads for their management can cause biodiversity loss, as some plant species may be unable to tolerate these interventions if they are not done properly.

To mitigate these impacts, the ESG team will verify whether the counterparties carry out the following actions in their activities: (i) preserve legal reserves and permanent preservation areas (as well as other specially protected areas); (ii) has the authorization to clear vegetation and carry out environmental compensation measures, if applicable; (iii) does not use agrochemicals on vegetation; and (iv) follows the Forest Management Plan, if applicable.

[4]Brazilian Law 11428/2006 provides for the use and protection of native vegetation in the Atlantic Forest Biome.
[5]State Law 20308/2012 defines pequi as harvest-free tree.
[6]If there is damage to PPA or legal reserves the instrument of commitment must be submitted formalizing the adhesion to the Environmental Compliance Plan.

4.2. Wood Trade, Certifications and Best Practices

In Brazil, storage and transportation activities concerning native raw (logwood, firewood) and processed (sawn wood, baseboard, sleepers) forest products for commercial or industrial purposes, require a Forest Origin Document - FOD, therefore, [7]are controlled, in general, by the Brazilian Institute for the Environment and Renewable Natural Resources – IBAMA, or other competent body of the National Environmental System.

During the social and environmental diligence, the company is verified on (i) issues FOD to carry out its storage, trade and transportation operations of native wood and (ii) the adequate control and management, so as not to cut and/or trade forest species protected by Brazilain legislation[8], namely: Brazil nut tree (*Bertholletia excelsa*), Rubber tree (*Hevea spp*) and Mahogany (*Swietenia macrophylla King*). The absence of such practices could bring operational, legal and reputational risk.

Furthermore, illegal logging has caused the deforestation of forests in Brazil and around the world[5]. Due to the sensitivity of this issue, which gains even greater repercussions on the countries' commitment to fighting climate change, the segment is increasingly required to adopt good practices to carry out its activities.

The company's adherence to forest certifications such as the Forest Stewardship Council (FSC) and the Brazilian Forest Certification Program (BFCS), internationally recognized by the Program for the Endorsement of Forest Certification Systems (PEFC), is a good practice and an advantage in the market. ESG Team will verify the existence of these certifications.

4.3. Impacts on Fauna

The activities of soil preparation, planting and harvesting cause the movement of people, machines and vehicles that can cause the removal of fauna in the area[9]. Also, hunting is common in forestry plantation areas. If these facts are not mitigated, there may be a reputational and financial risk related to the project.

The following actions will be evaluated in the social and environmental risk analysis of this type of project: (i) reserving trees or understory areas as passageways for fauna; (ii) preserving legal reserves and permanent preservation areas (as well as other specially protected areas) to also function as fauna passageways; (iii) creating habitat conservation areas for the reproduction of some species; (iv) developing environmental education programs (help raise awareness for the maintenance and conservation of vegetation) and monitoring of fauna.

[7] Such obligation is provided for in Articles 35 and 36 of BrazilianLaw 12651/2012 (Forestry Code) and is regulated by Decree 254/2006 and by IBAMA Regulatory Instruction 21/2014 (as amended).
[8] Decree No.5,975/2006 and Decree No.6,472/2008.
[9] In this sense and according to the publication by EMBRAPA FLORESTAS called "Plantações Florestais: geração de benefícios com baixo impacto ambiental" available at: < https://iba.org/datafiles/publicacoes/pdf/estudo-embrapa.pdf >:
"Poore and Fries (1988) state that forests composed of exotic species, generally because they provide less variety of food, support less variety of herbivores than the vegetation cover they replace, assuming the original cover was native forest. They argue that forests planted with exotic species lead to uniformity due to the predominance of a single species and because they are cut still young, they do not provide the necessary habitat for some species of living beings, which shelter in more mature trees or in tree trunks. trees already dead."

In regards to hunting, a good practice is to install signposts prohibiting hunting and involvement programs in this regard with neighbors and/or the local community.

4.4. Soil Erosion

Soil erosion in forests can be caused by natural factors (winds and rains), construction/maintenance of internal roads or the forest harvesting itself. Failure to correct these processes could cause reputational and financial risk related to the project's operation. During the social and environmental assessment of the project, the counterparty is verified on performance of the measures below to mitigate this impact.

For timber harvesting: (i) restoration of forest cover as soon as possible after cutting and, if this is not possible, temporary cover to protect erosive soils; and (ii) implementation of a cutting and harvesting schedule to avoid these activities in rainy periods.

For road maintenance and construction: (i) use of existing roads; (ii) existence of drainage on the roads (such as water bars, depressions and drains); (iii) if road construction is unavoidable, their landing areas should not be built in wetlands; and (iv) establishment of a schedule for periodic inspection and maintenance of erosive processes.

4.5. Quality of Water Resources

Planted forests have historically been the focus of discussions related to possible effects on water availability. Some scholars and groups of residents close to the places with plantation have argued that eucalyptus, for example, "dries up the water," which can generate reputational and operational risks for this type of enterprise[10].

During the social and environmental risk analysis, the authorizations for water resources will be verified with the competent authority. The preparation of complementary studies on the impact of the activity on the demand and supply of water will be considered good practice. The existence of programs for the efficient use, conservation and reuse of water and engagement actions with the local community will also be evaluated.

4.6. Use of Genetically Modified Organisms

In the planted forests sector, clones can be used for planting to increase productivity. These clones can be considered genetically modified organisms, and their use may be preceded by authorization from the Brazilian Technical Biosafety Commission, linked to the Ministry of Science and Technology.[11]

[10]Despite being part of the popular consensus of some regions in Brazil (ex: Nortjh of Minas), the publication by the Brazilian Tree Industry (Ibá) demystifies i the issue.
[11]Brazilian Law 11105/2005 defines a genetically modified organism as an organism whose genetic material has been modified by any genetic engineering technique. For more information, access: <http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2005/Lei/L11105.htm>.

For financial institutions, failure to request these documents (Biosafety Quality Certificate) in the cases required by regulation may represent a legal risk. They may become co-responsible for any effects from non-compliance with the rules regarding genetically modified organisms.[12]

In analyzing the social and environmental risk of this type of project, evidence of the Biosafety Quality Certificate will be requested to check the regularity regarding the use of clones.

4.7. Use of Fuels and Agrochemicals

Fuels used in machinery for construction/maintenance of roads or harvesting and agrochemicals used in pre-cut and post-cut activities present a contamination risk to soil and water if not used and disposed of in an environmentally sound manner.

Agrochemicals are generally used to control ants or pests, but their inappropriate use and disposal can pose an operational and reputational risk (e.g., the surrounding community's health).

Good practices observed in the segment reducing the use of agrochemicals are: (i) use of pests-resistant trees ; (ii) mechanical weed control; (iii) use of insects, birds and microbial agents to control pests; and (iv) use of mechanical controls (traps, barriers and light) to repel or relocate pests.

If the use of agrochemicals is necessary, the following actions will be observed in the social and environmental risk analysis of the sector: (i) training the team responsible for applying the agrochemical; (ii) use according to a label providing information on dosage and safe use; (iii) maintain and calibrate agrochemical use equipment according to manufacturers' recommendations; and (iv) development of a management plan ensuring: (a) storage is done in original packaging, in a well-ventilated place and with containment measures (to prevent spillage), which can be locked and properly identified with signs and access limited to authorized persons (b) the disposal of the packaging as well as the protective clothing used during its application is done in an environmentally sound manner according to applicable legislation.

4.8. Biodiversity

In 2023, the World Economic Forum classified biodiversity loss as the fourth biggest global risk over the next 10 years[13]. Given that approximately 50% of global GDP has a moderate or high dependence on nature[14], the potential impacts extend globally and systemically. In this context, the loss of biodiversity is important for most companies, due to the impacts on operations, supply chains and markets.

[12] For more information, see Federal Law 11105 available at: <http://www.planalto.gov.br/ccivil_03/_Ato2004-2006/2005/Lei/L11105.htm#:~:text=1%C2%BA%20Esta%20Lei%20estabelece%20normas,o%20descarte%20de%20organismos%20geneticamente>.
[13] The Global Risks Report 2023, World Economic Forum. Disponível em: < https://www.weforum.org/publications/global-risks-report-2023/>
[14] Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy, World Economic Forum. Disponível em: <https://www.weforum.org/publications/nature-risk-rising-why-the-crisis-engulfing-nature-matters-for-business-and-the-economy/>

In the socio-environmental risk analysis, impacts on nature and biodiversity may be evaluated, considering the key factors contributing to their deterioration, which include: (i) changes in land and sea use, (ii) exploitation of natural resources, (iii) climate change, (iv) pollution, and (v) invasive species.

Given the cross-cutting nature of the topic, various issues related to nature and biodiversity have been addressed in other sections:

- 4.1 Impacts on Native Vegetation
- 4.2 Wood Trade, Certifications and Good Practices
- 4.3 Impacts on Fauna
- 4.4 Soil Erosion
- 4.5 Quality of Water Resources
- 4.7 Use of Fuels and Agrochemicals

In addition to aforementioned, the following are considered good practices:

- Applying the mitigation hierarchy (in order: prevention, minimization, restoration and compensation)[15].
- Assessing and, as applicable, mitigating the impacts of operations in sensitive areas, such as protected areas[16], key biodiversity areas[17], and habitats of threatened species[18]
- Avoiding the use of invasive exotic species[19] and, if unavoidable, following existing regulatory frameworks for their introduction, monitoring, and controlling their impacts.
- Proper management of inputs (agrochemicals, fertilizers) to prevent contamination or eutrophication of water resources.
- Managing natural resources in order to avoid overexploitation (e.g. water consumption and logging).

Nature conservation plays a crucial role in maintaining ecosystem services such as pest and erosion control, soil quality, protection against floods and storms, climate regulation, among others. These, in turn, are essential to sustain the activities of the forestry sector. Therefore, inaction in the face of impacts on nature could result in the loss of these ecosystem services, which, in turn, would compromise the financial stability of companies in the sector. In this context, a credit risk arises, as such companies could lose the ability to honor their loans. Furthermore, the lack of initiatives in this area can lead to other risks, such as reputational risks (increased negative exposure in the media about impacts on nature), legal risks (possible fines and lawsuits demanding redress or compensation

[15] For more information, access IFC Performance Standard 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources). Available at: < https://www.ifc.org/en/insights-reports/2012/ifc-performance-standard-6 >
[16] A Protected Area is a clearly defined geographic space, recognized and managed by legal or other effective means, aiming to achieve long-term conservation of nature. Protected areas can be defined nationally (e.g. conservation unit) or internationally (e.g. UNESCO, Ramsar).
[17] Key areas for biodiversity represent places of global importance for the health of the planet and the preservation of biodiversity. To find out more, go here: <https://www.keybiodiversityareas.org/about-kbas>
[18] Threatened species are those at risk of extinction. There are national (https://salve.icmbio.gov.br/#/) and international (https://www.iucnredlist.org/) lists.
[19] Invasive Exotic Species are organisms that, introduced outside their natural distribution area, threaten biological diversity and ecosystem services. To know more, access here: <https://www.gov.br/ibama/pt-br/assuntos/biodiversidade/especies-exoticas-invasoras/sobre-as-especies-exoticas- invasiveas>

for environmental damage) and regulatory risks (imposition of more rigorous environmental licensing or the creation/expansion of new protected areas).

4.9 Occupational Health and Safety

Below are the main risks by activity and respective mitigation measures. These risks must be considered in the Environmental Risk Prevention Program (ERPP), Occupational Health Medical Control (OMHCP), and other Regulatory Norms of the Labor Office.

	Aspect	Risk	Mitigators
1	Handling and application of chemical products	Impacts on occupational health and safety	Training employees to carry out the activities. During application: (i) do not apply product against the wind; (ii) wear long-sleeved overalls, wide-brimmed hats and waterproof gloves. After application, wash hands with soap and water, in addition to keeping the product properly closed.
2	Use of chainsaws, axes and machetes during cutting activities	Physical injuries	Specific training to carry out this activity. Wearingf Personal Protective Equipment (PPE) such as gloves, shoes, protective clothing, helmets. First aid equipment, in addition to personnel trained in its use, must be available.
3	Use of chainsaws, axes and machetes during cutting activities	Noise and vibrations	Wearingf hearing protection and job rotation programs to reduce cumulative exposure.
4	Forest fires that can be caused by natural events (lightning) and human error	Fires	Development of fire risk monitoring system. Firefighting training and evacuation equipment. Provision of firefighting equipment.
5	Inadequate working and housing conditions.	Impact on quality of life and occupational health.	Comply with NR 24 and 31 regulations. Consider sector's best practices. Provide a secure and transparent communication channel for employees (both internal and third-party).

4.10 Human Rights

The area in which forestry planting is implemented may be located in an area in conflict with residents, traditional communities, indigenous peoples, *quilombolas*, riverside communities or social movements fighting for agrarian reform, which represents operational (ex.: interruption of activities from invasions), legal (costs associated with legal and/or administrative claims) and reputational risks. In cases of direct or indirect interference in these areas, additional consultations may be recommended, considering the terms of International Labour Organization Convention 169, which deals with free, prior, and informed consent.

The following are considered good practices: periodic assessment of human rights impacts (of its operations and the supply chain), development of communication mechanisms and dialogue with the community to identify risks and violations of human rights.[20]

[20]Human rights are those mentioned in (i) UN Universal Declaration of Human Rights – United Nations; (ii) Declaration on Fundamental Principles and Rights at Work of the International Labour Organization; (iii) UN International Covenant on Economic, Social and Cultural Rights (iv) UN International Covenant on Civil and Political Rights.
Brazilian Decree 9571 of November 21, 2018 establishes the Brazilian Guidelines on Companies and Human Rights.

If the resettlement of a population is necessary to carry out the planting, the correct compensation must be verified to the affected parties and if actions have been taken, together with these parties, to better preserve the livelihoods and living standards of the displaced people.

Regarding the human rights of the right to work, free choice of employment, fair and favorable working conditions, as well as the elimination of all forms of forced labor and the effective abolition of child labor, and good practice is to engage workers and the community on these topics continuously, in addition to complying with occupational health and safety standards, along with making payments of wages and benefits according to labor legislation, guaranteeing in addition to subsistence, a decent quality of life for workers and their families..

4.11 Community

Forest fires can endanger nearby communities and pose reputational and operational risks to the project. Crisis response and management plans prepared in conjunction with local authorities and nearby communities will be considered as mitigating these risks, as well as periodic training and/or booklets that establish a contact channel for indicating the occurrence of fire outbreaks.

Transporting wood after harvesting on roads passing close to neighboring communities can cause dust and noise emissions that could pose a reputational risk. Good industry practice is to establish effective communication channels (quick service by a qualified team, without retaliation) and speed limits on internal roads.

Furthermore, the use of agrochemicals on a large scale could expose the local community to health risks either through dermal contact, ingestion or inhalation of such chemicals. The best practices in the sector are: (i) avoid aerial application of pesticides; and (ii) implement community alert systems on agrochemicals application.

Routine dialogues with the community around the project areas are recommended for those three issues and in general to share information about the activities carried out, identify positive and negative aspects, and propose mitigation and improvement actions. Proper communication with workers, the community and other stakeholders can inhibit activities and mitigate reputational risks. The channels must be open, transparent and and trustworthy, covering employees, both own and third parties, and the surrounding community. The communication channels will be assessed, depending on the risk analyzed, for their form of disclosure, access, secrecy and confidentiality, non-retaliation against the complainant and transparency of the treatment and response procedures.

Annex: Sector Categorization Matrix - Social, Environmental and Climate Risk Document

Risks	Description	Category
Social Risk	Consolidated assessment	Medium
	Slave labor	Low
	Child labor	Low
	Occupational health and safety	Medium
	Damage to populations or communities	Medium
	Other factors	Low
Environmental Risk	Consolidated assessment	High
	Energy: use and conservation	Irrelevant
	Water: use and conservation	Medium
	Water: pollution	Medium
	Waste: management and disposal	Low
	Air: pollution	Irrelevant
	Biodiversity and natural resources: use and conservation	High
	Hazardous materials: disasters	Irrelevant
	Soil: contamination	Medium
	Other factors	Low
Physical Climate Risk	Consolidated assessment	Medium
	Adverse weather conditions	Medium
	Long-term changes	Medium
	Other factors	Irrelevant
Climate Transition Risk	Consolidated assessment	Low
	Public policies/Legislation	Low
	Technology	Low
	Markets/Consumers	Irrelevant
	Other factors	Irrelevant