

## Eternali – the ESG company

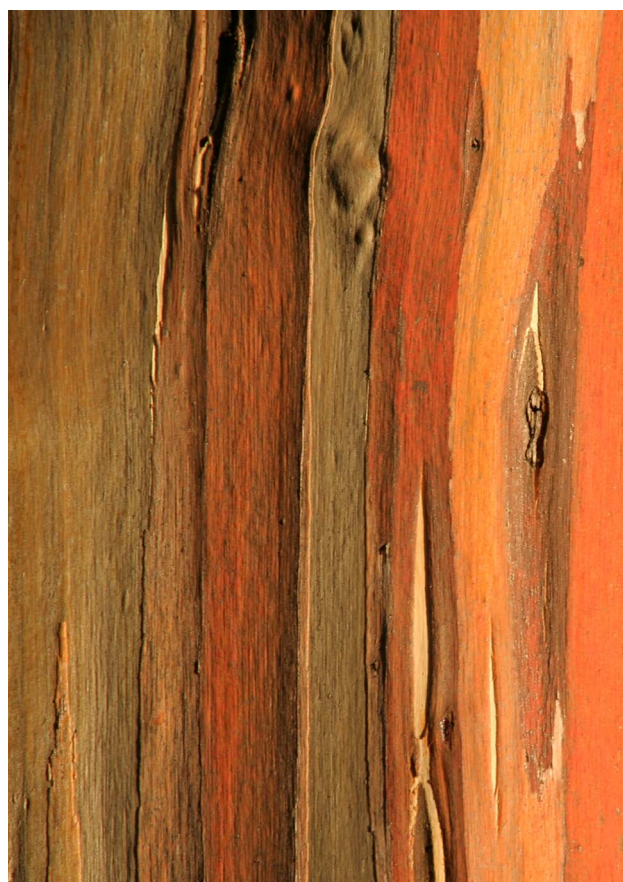
Even if you haven't come across the acronym ESG yourself, you're bound to hear it in all sorts of contexts in the future. ESG stands for Environmental, Social and Governance. It encapsulates what more and more shareholders and investors are considering to be important parameters, alongside profit potential, when assessing a company.

In our case, we can't stress enough how important this little acronym is – to our business and personally to us who work at the Company. If we don't take our environmental and social responsibilities seriously and also don't have appropriate governance models in place for monitoring and reporting, then we simply won't get business. Our buyers demand it. Because their buyers – the end consumers – demand it. That's how important ESG is today. If you think about it, that's a very positive thing in this gloomy age dominated by climate anxiety.

What then is it about? Let's start from the beginning with the E. Environment. To state the obvious, if you come in as a relatively new company with a business idea about forests in Brazil, you're immediately "in the red". People's first reaction is not "Ah, you're doing something good for the environment!" Absolutely not. The picture is often a misleading – but nevertheless well-established – one of rainforest deforestation. Rainforest on fire. Exploitation of native peoples. Corruption. The list goes on. That is precisely why we have to tread very carefully when we say that we're not focusing on ESG in a very general way, but that we are an ESG company; it is an integral part of our offering, not an add-on.

So let's go straight to the point: Is Eternali a climate-positive company? Specifically, do our operations bind more carbon dioxide than they emit, for example through felling and transport? The short and accurate answer is: Yes. How do we know? Well, it's possible to calculate this, and there are established formulae. Not content with doing the calculations ourselves, we went to an external consultant, a very well-established researcher specialising in forestry and the environment, and commissioned a report based on our projected sales and harvesting in 2022.

In summary, it turns out that the biggest impact of the wood raw material we supply is later in the value chain where it replaces fossil raw material. In our specific case, the estimate for 2022 is based on us supplying eucalyptus for pulp intended for paper production. At some point, that paper will be burned and become energy, replacing fossil energy. For paper, this substitution factor is very low, 0.29 tCO<sub>2</sub>e/m<sup>3</sup>, but if we were instead to deliver to a factory that produces packaging, for example for crushed tomatoes, the substitution factor is up to 20 times higher because a paper-based package can replace a tin can that costs a huge amount more to produce in terms of the fossil energy required.



Component	Climate impact in 2022, tCO <sub>2</sub> e <sup>1</sup>	Comment
Carbon storage in forests	-3,500	Carbon sink in unlogged forest
Carbon storage in product	0	No input
Substitution of fossil emissions	-181,000	Average substitution factor = 0.29 tCO <sub>2</sub> e/m <sup>3</sup>
Fossil emissions in value chain	54,600	55% related to sea freight
<b>Total climate impact</b>	<b>-130,000</b>	Rounded-off total

<sup>1</sup> Negative numbers refer to a reduction of atmospheric carbon dioxide

# Every part of our business supports the green transition

We only use certified or certifiable land that has not been deforested. In addition, we acquire natural forest for the conservation and protection of biodiversity. This is how every pillar of our business supports an environmental goal:

**Ready-to-cut eucalyptus**

> Supports >

**The shift away from fossil**

Our business pillar based on working with ready-to-cut mature eucalyptus enables the shift from oil and coal. Without more wood raw material, it will not be possible to replace plastic in all its forms (packaging, clothing, products). But the quality of the wood raw material must be good. That's why we make sure to certify non-certified plantations, which is also a requirement from our buyers.

**Degraded land for planting**

> Supports >

**Increased carbon sequestration**

Our business pillar based on long-term acquisition of degraded or unused land to plant more trees supports what is considered one of the most effective ways to increase carbon sequestration: More trees. We can plant more than 25 million trees on the land we have planned to acquire.

**Natural forest**

> Supports >

**Protection of forests and biodiversity**

Protecting wildlife is not merely an add-on. It's part of our business right from the start. We set aside at least 30 percent of our area of operations for protection and conservation. We have a letter of intent to acquire 3,569 hectares of protected forest in the Amazon biosphere for this purpose.

Eternal's  
biodiversity  
bank

## How does the production of forest raw materials affect global climate change?

Climate change is one of humanity's greatest challenges. The world is seeking solutions and options to deal with the effects of climate change, which is bringing not only global warming but also changes in rainfall intensity and extreme climate events such as hurricanes and heatwaves.

It is now beyond dispute that such changes are occurring mainly as a result of human activity, and in particular due to emissions of large quantities of greenhouse gases, such as carbon dioxide (CO<sub>2</sub>) and methane, into the atmosphere. It is also widely known that forest maintenance is playing a key role in the global warming debate, especially in Brazil, a country known for its forest productivity. See the graph on the next page for the way in which Brazilian forests have endeavoured to mitigate the threatening impact of climate change.

## Productivity in the Brazilian forestry sector

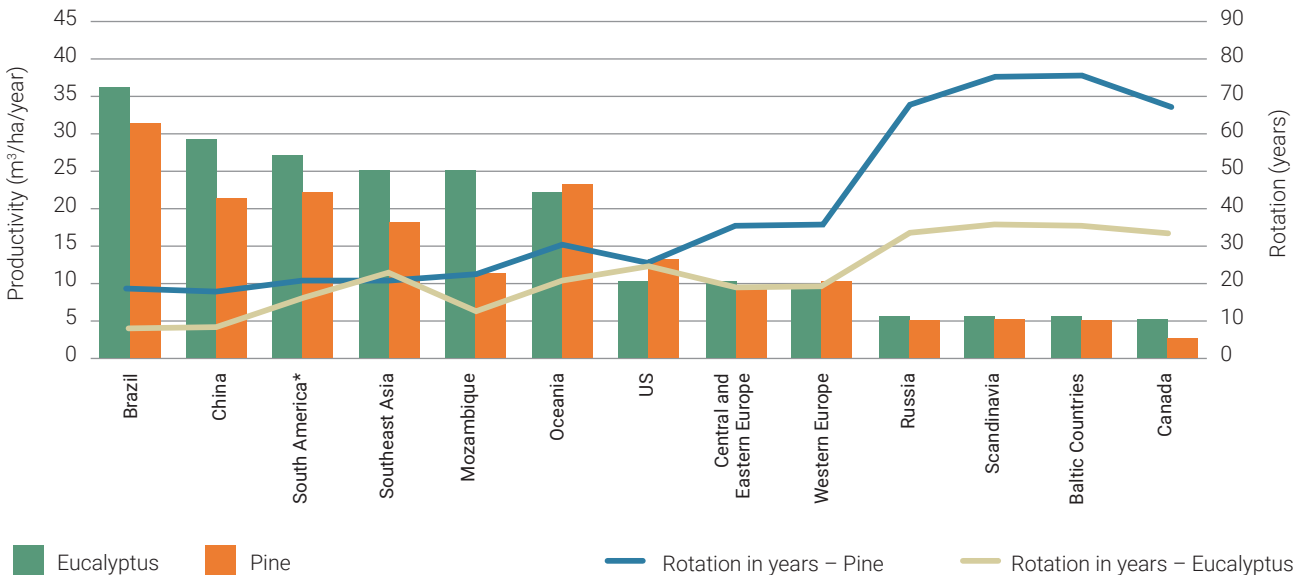
Brazil has the world's second largest forest area, with a total of 497.90 million hectares (ha) of forest (58.47 percent of its land area). This is more than 10 times the land area of Sweden (41 million ha). Of this area, natural forests account for 98 percent – 488.1 million ha – and planted forests for just 9.8 million ha (SFB, 2019). Recently, Brazil has been at the centre of heated discussions focusing on the necessity of maintaining the country's forests, above all for their role in global climate change. Deforestation is the country's biggest threat in terms of greenhouse gas emissions.

Brazil's forest-based sector is the world leader in terms of wood productivity (wood volume per unit area) (Figure 1). Among the most important commodities in the forest sector are pulp and paper, wood panelling and sawn wood (mostly native species mainly originating from Amazonia and Centro-Oeste, as well as foreign species such as pine and eucalyptus).

Despite the negative impact of the Covid-19 pandemic on economic activity in the various industrial segments, growth in the forest-based sector has been robust over the long term. The pulp and paper segments currently stand out in terms of positive expectations, due to the increased consumption of personal care and cleaning

products (VALOR, 2020). Against that background, the Brazilian forestry sector faces the challenge of stepping up its production to meet the growing demand for fibre, wood, energy and several other new applications that are still in the research and development phase.

**PRODUCTIVITY AND AVERAGE ROTATION PERIOD FOR PLANTED TREES IN BRAZIL COMPARED TO OTHER WORLD REGIONS**



\* Except Brazil  
Source: IBÁ and Pöyry (2016)

**What is the link between Brazilian forest productivity and climate change mitigation?**

Forests can be considered from the perspective of two main purposes: conservation and production or the interaction between the two – conservation through use – even if this does not occur on a major scale. In terms of production, planted forests, especially plantations of species such as pine and eucalyptus, enable the production of various products, such as pulp, laminated wood, sawn wood and firewood.

Irrespective of objective, both types of forest (natural and planted) promote various ecosystem services, including mitigation of and adaptation to climate change, water flow regulation, land conservation, nutrient cycling and biodiversity maintenance.

Through the natural process of photosynthesis, trees absorb carbon dioxide from the atmosphere and store it in their biomass, a phenomenon that is also known as carbon sequestration. During photosynthesis, trees absorb the CO<sub>2</sub> molecules and water, which, in the presence of light, produces glucose (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>) and water and releases oxygen (O<sub>2</sub>) into the atmosphere. Glucose undergoes various chemical reactions during the metabolic process, resulting in the production of biomass. Approximately 50 percent of a tree's biomass consists of carbon dioxide<sup>4</sup>. Since productive forests are planted and harvested in different cycles over time, an average carbon dioxide stock is maintained in the areas mentioned until the rotation age. In 2018, the equivalent CO<sub>2</sub> stocks in the forest segment in native and planted forests amounted to 4.2 billion tonnes.<sup>5</sup>

<sup>4</sup> SOARES et al., 2011  
<sup>5</sup> (IBA, 2019).

In terms of adaptation to climate change, forests contribute to the microclimate of regions, making local temperatures milder, reducing erosion, maintaining biodiversity and protecting water resources; in short, they reduce the potential negative impacts of climate change.

In the case of planted forests, supplies of wood and fibre for industrial consumption are also increasing. This is reducing pressure on native forests.

Over the past 30 years, Brazil has developed a forest management system for the production of wood in the forests of the Amazon that reconciles the use and conservation of forest resources. Brazil has the largest standing tropical forest on the planet, the Amazon rainforest, which accounts for about 20 percent of global biodiversity. Forest maintenance is essential to the development of sustainable management of communities that lack economic options and quality of life.

The growing expansion of areas under management in our natural forests shows that this is the way to keep ecosystems active and increase their value. Similarly, the expansion in forested areas planted with exotic and native vegetation is pointing the way forward for other sectors that have not recognised the pressing need to adapt to global efforts in order to mitigate climate change.

In addition to meeting the demand for wood products, the forestry sector is also playing a role in the redesign and proper management of Areas of Permanent Protection (APP) and Legal Reserve (LR).

In Brazil, the forestry sector is the sector that is most protective of natural areas. Almost 7 million hectares are dedicated to conservation (IBÁ, 2019). This increases the protected areas, APPs, LRs and Private Natural Heritage Reserves (RPPN in Portuguese) (Figure 2), which directly contribute to the regulation of water flow, pollination, climate control, formation of carbon dioxide stocks, soil conservation, seed dispersal, nutrient cycling and establishment of green corridors, as well as cultural, scientific, recreational and educational activities. For every hectare planted with trees for industrial purposes, a further 0.7 hectares is therefore set aside for conservation.

Another important classification encompasses 153,000 hectares of these classified areas, including High Conservation Value Areas (HCVA) (IBÁ, 2019), which are considered of utmost importance for the conservation of species of flora and fauna, maintenance of ecosystems, provision of environmental services and preservation of the traditional cultural identity of local communities.

#### DISTRIBUTION OF AREAS PRESERVED BY THE PLANTED TREE INDUSTRY, 2018

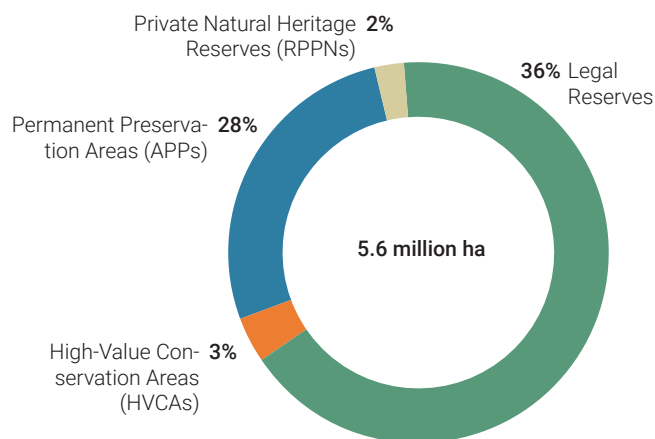


Figure 2

Source: IBÁ E Pöyry (2018)

The forest industry also contributes to climate change mitigation in the manufacturing process. The wood industry, for example, generates most of the energy needed to perform its production processes using forest biomass (industrial and forest residues); about 70 percent can be saved.

In the near future, more biorefineries will be built and will generate products such as biofuels, in addition to generating energy. This means that as well as storing carbon dioxide, the sector is also helping to prevent emissions by using more forest products, rather than energy and products from non-renewable sources.

