



**BRAZIL**



**Pulp and paper are not made from native forests in Brazil. All the raw material is originated in planted forests, which are a renewable resource.**

### **Excellence in forestry management, high levels of productivity and sustainability.**

The global success of the Brazilian pulp and paper industry is a result of these attributes, added to an important differential in regard to the leading global players in this industry. Brazil is one of the only countries in the world where 100% of its pulp and paper production comes from planted forests, a natural source of renewable raw material that absorbs large amounts of CO<sub>2</sub> from the atmosphere.

This is why planted forests are such vital allies for the planet in tackling global warming.

Planted forests are grown in specific areas and then harvested for industrial use. Next, the land is replanted with saplings. Today, without using any wood from native forests, this industry is an international reference, being the fourth-largest global producer of pulp and the eleventh-largest global producer of paper.

Decades of investment in research and genetic improvement have increased the productivity of the industry's planted forests, which constantly produces more volume of wood, using the same area.

In addition, Brazil's favorable climate and soil conditions give it a comparative advantage: a short tree-growth cycle. Eucalyptus, the species used in making tissue, printing and writing paper, among other products, is harvested after six or seven years – less than half the time the species develops in other regions. Pine, used in the production of packaging, cardboard and newsprint papers, is harvested after 15 years, ten years less than this species' cycle in other countries.

### **Because they grow fast, eucalyptus and pine are highly efficient in absorbing CO<sub>2</sub>.**

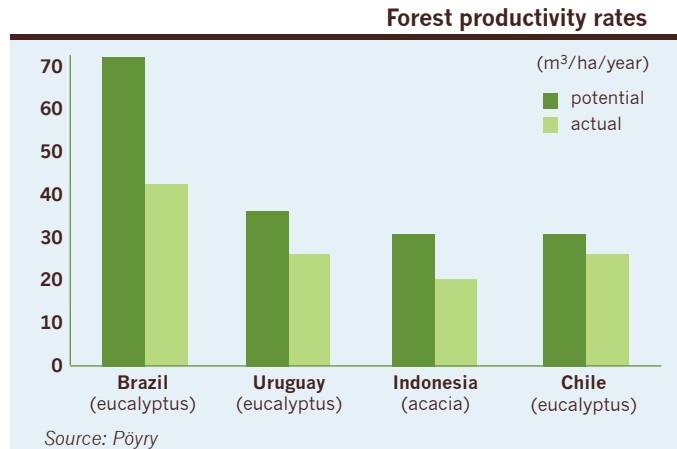
Planted forests also restore degraded areas, reduce the pressure on the native forests and protect biodiversity. In addition, they supply renewable energy from biomass and provide environmentally friendly products. The harvest is responsible for the creation of jobs and wealth in communities located far from the country's urban centers.

For all these reasons, the pulp and paper industry in Brazil is in favor of the acknowledgement of forestry carbon credits in the Kyoto Protocol.

# **PLANTED FORESTS: VITAL ALLIES OF THE PLANET**

# Clean technology from the forest to the mill

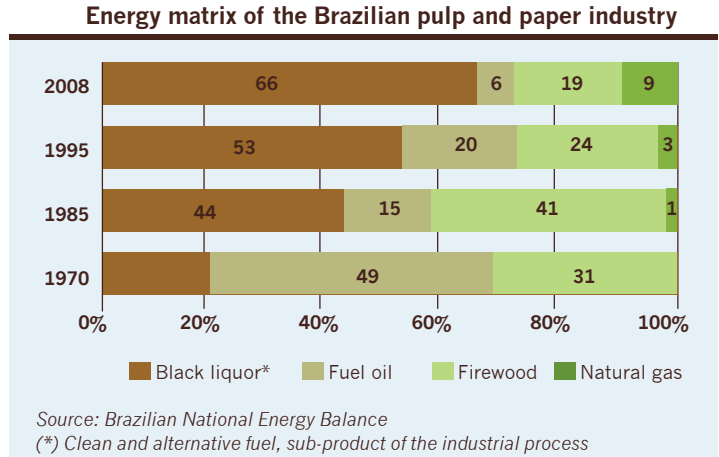
Companies have been investing for decades in research to enhance forestry management and manufacturing processes. Genetic material obtained from continuous improvement results in trees with greater rates of growth and resistance to diseases, better quality, and higher quantity of pulp per cubic meter of wood.



The industry has also upgraded the soil management – with minimum tilling, in lines, minimizing CO<sub>2</sub> emissions – and the monitoring of planted forests.

Planted forests are cultivated among natural ones forming a composition known as mosaics. They create ecological corridors that preserve ecosystems and biodiversity.

High technology and sustainable processes are also used in the manufacturing of products. In recent decades, the industry has reduced the use of fossil fuels as a source of energy.



Replacing fossil fuels for renewable ones, increasing the use of black liquor, and co-generating energy are among the actions taken by the industry to reduce carbon emissions.

While the manufacturing process emits 21 million metric tons of CO<sub>2</sub> a year, planted forests in this industry absorb 64 million metric tons of CO<sub>2</sub> a year. That means they capture three times more CO<sub>2</sub> than the mills emit. This has positioned Brazilian pulp and paper industry as an environmental creditor.

# Planted forests: efficiency in carbon sequestration

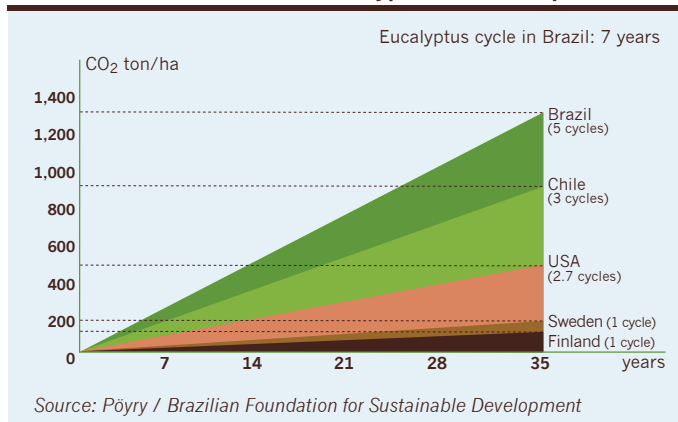
Trees absorb most CO<sub>2</sub> during their growth phase. This explains the large absorption capacity of the planted forests. With the world's shortest and most productive growth cycle, pine and eucalyptus are highly efficient in capturing CO<sub>2</sub>: as soon as one tree is harvested, another sapling is planted in its place, beginning a new absorption cycle.

**2 million hectares.** This is the area of planted eucalyptus and pine forests used to pulp and paper production in Brazil. Every year they absorb **64 million metric tons of CO<sub>2</sub>** from the atmosphere.



Gleison Rezende

## Eucalyptus CO<sub>2</sub> absorption rate



## Forestry certification: a market differential

Certification of the forestry base is an important differential in markets that appreciate sustainability and conscientious consumption.

Brazil has 6,8 million hectares\* of certified forests. Of this total, 2,7 million hectares\*\* belong to the pulp and paper industry.

The certifications are granted by the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC), which are globally recognized institutions.

\* including preservation areas and management of native forests

\*\* including native forest preservation areas

# Planted forests: recovery of degraded lands

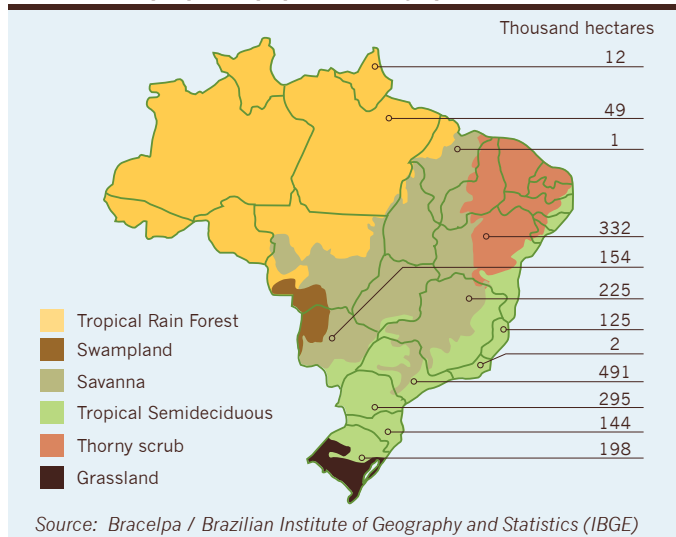
Planted forests help reduce deforestation, recover degraded lands, and conserve important ecosystems and species under threat of extinction. By supplying raw material for most of the forestry products used today, they reduce the pressure on native forests.

The pulp and paper industry is one of the leaders in recovery of the Atlantic Forest (tropical semideciduous), an important Brazilian ecosystem.

**2,8 million hectares.** This is the area the pulp and paper industry holds for the preservation, recovery and study of forest biodiversity.

**6,6 million hectares.** This is the total area of planted forests in Brazil, equal to **0.7%** of the country's territory. Planted forests supply raw material for the wood, furniture, steel, and pulp and paper industries.

## Brazilian pulp and paper industry: planted forest areas



# Forestry carbon credits: the way towards sustainable development



The Clean Development Mechanism (CDM) projects are one of the main ways to generate Certified Emissions Reductions (CERs), known as “carbon credits”. They are an important alternative for developed countries to achieve their greenhouse gas emission reduction targets.

Carbon credits generated by forests may lead to the creation of countless CDM projects, generating new initiatives to combat global warming and encouraging reforestation.

However, because of a series of restrictions, forestry carbon credits are not eligible to offset emissions. This is why the Kyoto Protocol must recognize that native and planted forests absorb CO<sub>2</sub> from the atmosphere and store carbon.

The Brazilian pulp and paper industry is in favor of this change in the current text of the Kyoto Protocol, which will lead to the enhancement of the CDM.

Main points this industry is in favor of in new climate policies:

**Current text:** Burning, storms and flooding can destroy natural and planted forests. Vulnerable to natural disturbances and other “acts of God”, they are not permanent carbon sinks.

**Proposal:** Establish periodical monitoring of the forests, regarding: CO<sub>2</sub> absorption rates, carbon storage index and potential CO<sub>2</sub> absorption data. These information assure the supply of forestry carbon credits available for trade. Set up commitment by the parties to replace carbon stocks, if they are reduced. In addition, create lines of insurance and reinsurance for planted forests to offer the market guarantees of carbon stocks replacement.

**Current text:** Planted forests absorb CO<sub>2</sub> temporarily. When they are harvested, all the carbon stored returns to nature, transformed into wood for diverse applications and other sub-products.

**Proposal:** The absorption cycle of planted forests is never interrupted. As soon as a tree is harvested, a new sapling is planted, in the same place.

# Society in first place

The pulp and paper industry creates jobs and generates income in the 415 municipalities in the 17 Brazilian States it operates in, helping to improve the quality of life for the people in these cities.

It operates mainly by fostering programs that benefit 21,000 small rural landowners and also supply 10% of the wood consumed for producing pulp and paper in Brazil.

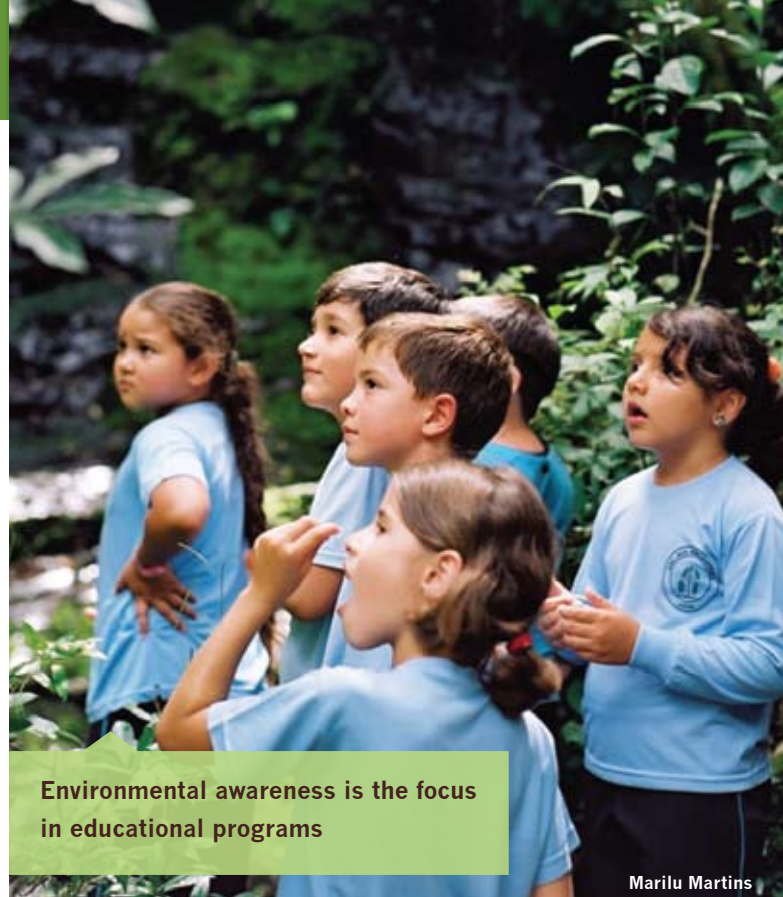
The initiative involves most of the Brazilian pulp and paper companies, which transfer technology to producers, guarantee purchases of their wood and encourage the development of profitable agricultural activities, associated with the planting of forests.

Companies also run programs in professional training, environmental awareness, education, culture and sports.

Human Development Index (HDI) shows how some municipalities evolve after the companies have set up there.

In Mucuri (Bahia State), for example, where the industry began its activities in 1992, the index rose by 31.4% between 1991 and 2000. In Linhares (Espírito Santo State), where the industry has been since the middle of the 1990s, the HDI rose by 17.8% in the same decade.

The industry employs **114,000 people directly and 500,000 indirectly.**



**Environmental awareness is the focus  
in educational programs**

Marilu Martins