

Climate change

<p>The IPCC has confirmed that human activity is a major cause of climate change.</p>	<p>Forests and plantations: sequester carbon by capturing carbon dioxide and releasing oxygen which mitigates climate change.</p>	<p>Deforestation of tropical forests accounts for approximately 10% of global GHG emissions.</p>
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Forests and plantations mitigate climate change

What are the main causes of climate change?

The Intergovernmental Panel on Climate Change (IPCC) released its fifth climate assessment report in September 2013, confirming speculation that **human activities are the main cause of climate change**. The report suggests that temperatures are likely to rise by 0.3-4.8°C by the end of the century.

As a framework for assessing the level of mitigation required, the IPCC used a carbon budget approach — determining how much carbon we can emit before we exceed a 2°C temperature increase, regarded as the point beyond which climate impacts would become disruptive.

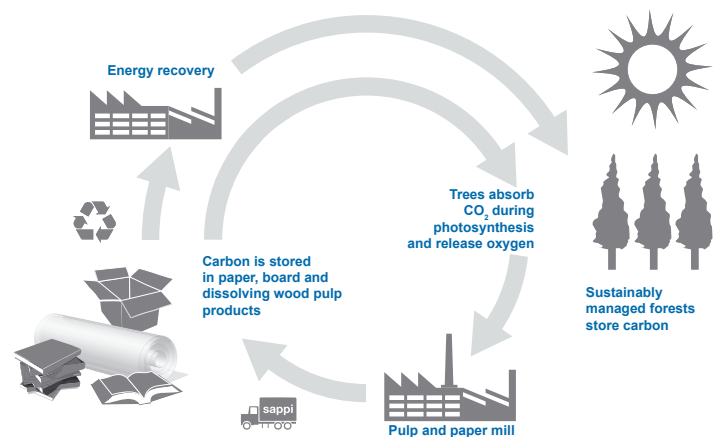
To **limit the rise to 2°C**, the total post-industrial emissions of carbon from all sources should be limited to 1,000 billion tons. About **half of the carbon budget has already been released**.

Does climate change impact forests and plantations?

Climate change can stress forests through higher mean annual temperatures, altered precipitation patterns and more frequent extreme weather conditions which could exacerbate many of the threats forests and plantations face, such as pest outbreaks, fires, water scarcity and drought.

How do trees mitigate climate change?

Climate change is exacerbated by the presence of too many greenhouse gases; carbon dioxide (CO₂) is the most abundant greenhouse gas in the atmosphere. Through photosynthesis, a part of the carbon cycle, trees and other plants use water and sunlight to convert CO₂ into carbohydrates to provide energy and the building blocks for growth. The process releases oxygen as a by-product. The carbon removed from the atmosphere is effectively stored in plant material and wood. In other words, trees act as carbon sinks.



Harvesting, balanced with regrowth, perpetuates carbon sequestration.

Europe's **forest cover increases** approximately **30% per year** through responsible use practices.

“When people use more paper, suppliers **plant more trees**. If we want bigger commercial forests, then we should **use more paper**, not less.”¹¹

What is carbon sequestration?

Carbon sequestration is the process of capturing and accumulating carbon within the system. To be classified as a significant service, the carbon store should be increasing. To maximise carbon sequestration, it makes sense to harvest mature trees and replant them, perpetuating the sequestration process.

The forests from which we source our woodfibre in Europe and North America are managed sustainably; regrowth and afforestation exceeds the rate at which woodfibre is extracted. In Europe, 30% more new trees are planted every year than are harvested.² Over the last six decades, the total net US forest area has increased by over 3%.³

In South Africa, our commercial plantations remain productive, even when we harvest the crop. Less than 10% of our trees are harvested at any one time; these are generally replanted within a few months to perpetuate the carbon sequestration process.

Does Sappi use woodfibre from tropical forests?

We do not use woodfibre from tropical forests. Deforestation of endangered forests is said to account for 10% of global greenhouse gas emissions. According to Greenpeace, deforestation accounts for more climate pollution than all the world's cars, trucks, trains, planes and ships combined.⁴

Are Sappi's woodfibre sources managed sustainably?

Certification gives our customers the assurance that our products originate in sustainably managed plantations and forests. Globally, 73.5% of fibre supplied to our mills is certified.

In South Africa, all our owned and leased plantations are FSC® certified; 83.1% of the wood supplied to us is certified; the balance is procured from known and controlled sources. There are approximately 28.6 million tons of standing timber in our plantations.

In Europe and North America, we do not own plantations or land, but source woodfibre from landowners and commercial loggers.

In Europe, 74.1% of fibre used is certified through FSC and PEFC™, while in North America, 54% of fibre used is certified through FSC and SFI®, as well as from the Certified Logging Professional and Maine Master Logger programmes.

We use internationally recognised forest certification programmes that include:

FSC® Forest Stewardship Council®⁵

PEFC™ Programme for the Endorsement of Forest Certification™.

SFI® Sustainable Forestry Initiative®.

What is Sappi doing to mitigate climate change risk?

In each region where we operate, we monitor the situation very closely.

In **South Africa**, where we own and lease 387,291 hectares of land, we have a high level of control over our fibre sources. We moderate our exposure to climate change-related risk by:

- **Maintaining wide genetic variability** in our planting material enables us to breed trees for a wide range of conditions allowing us to respond to climatic changes.
- Continually monitoring and reviewing **forest best practices** in the light of changing environmental factors, thus helping to mitigate any increased threat from drought.
- Measuring **permanent sample plots** annually (eucalypts) or bi-annually (pines) to determine the effect of drought and other climatic change impacts on annual growth as an input to long term planning.
- Engaging in **research** and **collaboration** with industry and tertiary institutions to develop **biocontrol** measures and **breed genetically more resistant planting stock**.
- Implementing extensive planting of more **drought tolerant eucalypt hybrids**.
- Fire risks are mitigated via an integrated Fire Risk Management System (FRMS) which categorises our risks and assigns a risk rating. We also calculate an estimated maximum loss (EML) per area. Fire management plans are drawn up with mitigation measures to minimise these risks and reduce EMLs as much as possible. These plans are monitored throughout the fire season using our FRMS system.

Other ways in which Sappi is mitigating climate change?

Our efforts to reduce our own carbon footprint are evident in the fact that over 45% of our global energy use is derived from renewable, rather than fossil fuel sources. This is important, as the burning of fossil fuels releases 'new' CO₂ previously locked up in the earth's crust in the form of oil, gas or coal. When renewable energy like biomass is burned, the CO₂ released is equivalent to that which was bound from the atmosphere during the process of photosynthesis—so, no 'new' carbon is being introduced.

Our aim is to enhance energy self-sufficiency, improve energy efficiency and decrease our reliance on fossil fuels. We are achieving this by making process changes, installing Best Available Technology (BAT) which is more energy efficient, reducing purchased energy (electricity and fossil fuel) by increasing our use of renewable energy—an approach that ultimately results in a reduction in CO₂ emissions.

Since 2000, when we instituted a system for measuring greenhouse gases (GHGs), based on the premise of *measure, monitor, manage and mitigate*, one of our key strategic goals has been to reduce our carbon footprint by improving energy-use efficiency and decreasing our reliance of fossil fuels.

¹ Edward L. Glaeser, Professor of Economics at Harvard University

² Paper Production Supports Sustainable Forest Management, <http://www.twosides.info/>

³ <https://twosidesna.org/US/thirty-leading-north-american-companies-remove-go-paperless-save-trees-claims>

⁴ The Carbon Cycle and Atmospheric Carbon Dioxide, IC Prentice, <http://www.ipcc.ch/>

⁵ Our mills' and forestry certification details, including FSC®, SFI® and PEFC™, are available online (<https://www.sappi.com/certifications>) and summarised in the [Sustainability FAQs — Our certifications](#).