

A background image of several green bamboo stalks, slightly out of focus, creating a natural and textured backdrop for the text.

BAMBOO POSITION PAPER

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CANOPY'S POSITION

Canopy considers bamboo that is certified by the Forest Stewardship Council (FSC), has been grown without causing conversion of natural forests, and has reduced its use of chemical pesticides to be a Next Generation fibre. Whether it's from a natural bamboo stand or a purpose-grown crop, bamboo is a grass species with lower-carbon impacts than many forest fibres.

CONTEXT

Bamboo has been a consistent and increasingly prevalent fibre source for various products — including paper, flooring, and textiles.

Bamboo, used sustainably, is recognized by the International Union for Conservation of Nature (IUCN) as having economic and social importance, particularly for local communities. Bamboo is often promoted as a remarkable renewable material due to its being a fast-growing grass species. It has a strong root network, and in just four years can produce sufficient volumes of its woody, cellulose-rich fibre to be economically viable. Bamboo also represents an important carbon sink globally, storing significant carbon both above and below ground.¹

However, not all bamboo is the same, and similar to any productive crop, bamboo can be grown and produced sustainably or unsustainably. There are natural bamboo forests that are managed sustainably, as well as bamboo plantations that have been established and can be managed sustainably. It is important to distinguish between bamboo grown and harvested in a manner that has minimal environmental impact versus bamboo production that could exacerbate environmental problems.

Conversion of natural bamboo forests is an example of an environmental problem that has occurred in the past.

Historically, clearing of the giant pandas' natural bamboo forest habitat and food source led to the now iconic species becoming endangered. Lessons were learned regarding panda habitat in China but, in other regions, natural forests continue to be cleared in order to create bamboo plantations. Therefore, to avoid the significant ecological impacts associated with conversion of natural forests to plantations, Canopy's position is that bamboo must be FSC-certified or grown on degraded farm lands.

The impacts associated with processing bamboo to be used in paper products or textiles also need to be considered. Whether derived from forest fibre or bamboo, pulping fibres to make MMCF, paper, or packaging can be a chemically-intensive process. Ensuring cutting-edge technology that provides a more efficient and cleaner alternative to existing pulping methods is critical when considering the use of bamboo fibre (e.g., 'closed-loop' lyocell processing). Canopy partners with ZDHC, tapping into their expertise on chemicals and textiles for our annual [Hot Button Report](#). Canopy's [EcoPaper Database](#) also includes guidance on chemical use related to bleaching.



Can bamboo be considered a Next Generation Solution?

Canopy is a strong proponent for alleviating pressure on the world's forests and climate via shifting towards circular models of production for paper and textiles, and the use of lower-impact alternatives to wood fibre. Catalyzing rapid and broad adoption of these more sustainable systems and solutions is a priority for Canopy.ⁱⁱ

Brands and producers often ask whether bamboo can be considered one of these innovative and more responsible Next Generation materials. Primary sources of information considered by Canopy in evaluating such options include independent third-party Life Cycle Analyses (LCA) and FSC standards.

An LCA commissioned by Kimberly Clark evaluated bamboo as one of several alternatives to wood pulp used for the production of tissue paper in North America. This study found that U.S.-grown bamboo fibre had a significantly lower ecological impact than fibre from the Boreal forests. However, the study also noted there are impacts related to bamboo with pesticide use and invasiveness that should be noted. Another LCA commissioned by Stella McCartney compared 10 sources of man-made cellulosic fibre (MMCF), and highlighted that the main impact categories for bamboo viscose are net freshwater consumption and human health impacts due to exposure to hazardous chemicals. This LCA considered production of MMCF derived from five completely different material feedstocks (wood, bamboo pulp, cotton linter, flax by-products, recycled clothing) with supply chains stretching across four continents. While there was no source of MMCF that was unambiguously environmentally preferable across all impact categories, bamboo performed as a "middle class" fibre, after flax production and recycled pulp and ahead of original forest fibre from Canada and Indonesia across most impact categories.ⁱⁱⁱ

When it comes to the cultivation and harvesting of bamboo, the Forest Stewardship Council (FSC) has set rigorous standards, as well as requirements related to deforestation and conversion, and the use of the most hazardous chemical pesticides, and community rights. Canopy has concluded that bamboo, when it is FSC-certified, can be a lower-impact virgin fibre feedstock than wood from Ancient and Endangered Forests.

Canopy further encourages brands and producers to prioritize the use of recycled paper, circular textile material inputs, and agricultural residues wherever possible. A growing body of evidence from leading life cycle analyses consistently demonstrate that these materials can have significantly reduced ecological impacts compared to virgin forest fibres,^{iv} and their use further helps tackle the global waste problem.



REFERENCES & LINKS

- i. Yuen et al (2017), Carbon stocks in bamboo ecosystems worldwide: Estimates and uncertainties, [sciencedirect.com/science/article/abs/pii/S0378112716305539](https://www.sciencedirect.com/science/article/abs/pii/S0378112716305539)
- ii. nextgennow.canopyplanet.org
- iii. See Canopy's [Next Gen Benefits Brief](#) for more details
- iv. See Canopy's [Next Gen Benefits Brief](#) for more details