SEEING THE FOREST FOR THE TREES

Canopy's quick guide to critically analyzing Life Cycle Assessments and environmental claims for virgin, recycled, and Next Gen fibres.

Life Cycle Assessments (LCA) can be invaluable tools to help evaluate the true impacts of purchasing decisions. LCAs can help account for both upstream and downstream effects in a product's life, enabling a better understanding and awareness of trade-offs and unintended burden-shifting.

However, not all LCAs are created equal. Making sense of widely varying and often contradictory claims can be a challenge!

Despite international standards (ISO 14040 and ISO 14044) and mandated guidelines (including the Product Environmental Footprint (PEF) method and Product Category Rules (PCRs)) — the devil is in the details. Some studies contain significant limitations or omissions with respect to transparency and scope, while others provide robust, credible, and comprehensive analyses.

While every LCA will be different and vary in available data, bias, and assumptions, Canopy's guidance on key elements can help you see through misleading claims and set a high bar for standards grounded in the best available science.* Ancient and Endangered Forests — and the climate, species, and communities they help nurture and sustain — will thank you!

	ASK FOR THESE FEATURES	WATCH OUT FOR THESE COMMON ISSUES OF CONCERN!
RELEVANT TIME HORIZONS AND BASELINES	1. Are time horizons of analysis selected and evaluated in the context of IPCC-projected climate "tipping points" (e.g., 2030, 2050)? 2. Are impacts compared relative to an "undisturbed" historical baseline (i.e., pre-industrial activity)?	1. Only considers a 100-year or greater time horizon, irrelevant to short-term international goals to limit climate warming and avoid irreversible tipping points. 2. Evaluates impacts relative to present day or recent conditions, thus omitting or underestimating pre-existing carbon debts within the landscape of interest.
	Studies that show results for multiple horizons (e.g., 20-year, 100-year, and 500-year) are able to tell a more comprehensive story of how impacts change over the short, medium, and long term, as well as how actions line up with critical climate and biodiversity goals.	Depending on the study's starting baseline, significant carbon transfer to the atmosphere may have already occurred due to past deforestation and forest degradation (implying a pre-existing carbon 'debt'). Ignoring such historical context is like assessing water quality in an already polluted stream and assuming the current condition counts as clean.
ROBUST BIOGENIC CARBON ACCOUNTING	1. Are all biogenic carbon emissions and uptake associated with a harvested wood product accounted for separately? Including: A. at the forest floor – e.g., from abandoned residue decay, soil carbon release, land-use change (including deforestation, degradation, and road construction), foregone growth*, and new growth. B. at the mill – e.g., from burning of woody biomass for energy. C. at end-of-life – e.g., from incineration and landfilling. Is each biogenic source clearly defined, relevant, and consistently accounted for (e.g., same functional units, time frames)?	1. Invokes a default carbon neutrality assumption, without demonstrated evidence. 2. Considers impact at the mill only, excluding upstream emissions from the forest of origin and downstream impacts at end-of-life. 3. Omits one or more components of the biogenic carbon footprint or exaggerates the product life span and associated carbon storage benefits.
	*i.e., the lost sequestration potential relative to a no-harvest scenario. Ignoring this "opportunity cost" of cutting down trees that would otherwise continue to sequester carbon undermines both the present and future value of standing forests. Transparent and third-party reviewed LCAs that include robust biogenic carbon accounting show that omitting biogenic carbon losses can underestimate net emissions by as much as 75% to 92%. The percent by which net emissions can be underestimated when you omit biogenic carbon losses. As discovered by transparent and third-party reviewed LCAs that include robust biogenic carbon accounting.	There is broad scientific support that default carbon neutral claims are oversimplifications at best — misleading or outright false at worst. Most importantly: the forest of origin matters. Every forest is subject to unique timescales of regeneration, with intact and primary forests being widely recognized as functionally irreplaceable. Unavoidable forest and soil carbon losses at the time of logging further produce immediate climate and biodiversity impacts at a time when we urgently need to keep as much carbon out of the atmosphere as possible. Waiting for new growth to recapture the loss requires time we don't have, not to mention there is no guarantee of full forest recovery to pre-harvest conditions (e.g., due to soil carbon loss, road construction, and climate feedback loops).
COMPREHENSIVE SCOPE	1. Does it evaluate a comprehensive set of impact categories that accounts for all direct and indirect environmental impacts during the product's life cycle? Key themes should include: A. climate system impacts (incl. global warming, regional 'hot spots', biogenic carbon loss, short-lived climate pollutants, etc.). B. ocean, freshwater, and terrestrial ecosystems impacts (incl. biodiversity/threatened species, acidification, eutrophication, ozone depletion, ecotoxicity, land-use, etc.). C. biotic and abiotic resource depletion (incl. wood, energy, water, minerals, etc.). D. human health (incl. particulates, hazardous chemicals/waste, etc.). Are end-of-life assumptions realistic, rather than based on "ideal" or "intended" projections?	1. Focuses on carbon or GHG emissions only, at the expense of other relevant impact categories. 2. Biodiversity impacts are omitted or superficially addressed (e.g., cherry-picked criteria or regionally inappropriate datasets preclude consistent comparisons with standard IUCN data and locally-relevant literature and inventories of threatened and endangered species). 3. Excludes upstream impacts from the forest of origin or short-lived climate pollutants such as black carbon. 4. Primary data is limited or incomplete; study is over reliant on industry or national averages that mask local impacts.
	The climate and biodiversity crises are deeply interconnected, and both require urgent action to stabilize. In the pursuit of true solutions, we cannot ignore one for the other.	Note also emerging calls to include "Social" Life Cycle Assessment (S-CLA) methodology that incorporates socioeconomic considerations, in addition to standard environmental metrics.
CREDIBILITY AND TRANSPARENCY	1. Does it include an external critical review panel (required for ISO-compliant studies used to make a comparative assertion that is disclosed to the public)? 2. How many panelists were involved, and do they represent diverse, multi-stakeholder perspectives that includes environmental expertise as well as adequate skepticism and objectivity? 3. Is the full LCA report publicly published and freely accessible, including clearly documented methodology, assumptions, and sensitivity checks? 4. Are the motives for the LCA commission free of any clear conflict of interest?	1. No independent third-party review. 2. Only limited or summarized results are available, with minimal or no access to methodology and assumptions. 3. Makes broad, generalized claims from highly specific applications, with minimal or no acknowledgement of limitations. 4. Results benefit the sale of a product or growth of an industry that is linked to the commissioning body.

WANT TO GO ONE STEP FURTHER?

Whether as a producer or innovator, or a brand looking to make informed choices in your supply chain, support increased transparency in assessments of virgin, recycled, and Next Gen fibres by commissioning robust LCAs based on the best available science. Connect with us at nextgensolutions@canopyplanet.org for support on how to get started and find recommended vendors.

* Canopy developed this guidance based on analysis of technical reports by LCA certified practitioners, extensive peer-reviewed literature on the biogenic carbon footprint of logging, and 11 independent LCAs and carbon footprint studies. These 11 studies include both publicly-available and confidential innovator-provided reports that cover a wide variety of virgin tree fibres, recycled fibres, and tree-free Next Gen fibres (including four studies for which Canopy served on the critical review panel). They span a broad spectrum of leading and lagging practices with respect to timeframe relevance, biogenic carbon accounting, scope, credibility, and transparency. Please contact us for full details.