

canopy

NEXT GEN NOW

canopy

— supercharged by —

THE
AUDACIOUS
PROJECT

THE AUDACIOUS PROJECT

The Audacious Project is a funding initiative from TED catalyzing social impact on a grand scale.



1	OUR MISSION	3
2	10 YEARS OF NEXT GEN	6
3	SOLUTIONS	16
4	IMPACT	17
5	HOW WE DO IT	18
6	CASE STUDIES/PARTNERS	19

IT'S TIME TO SCALE  SOLUTIONS
THAT DON'T COST THE EARTH. 

WE ARE CANOPY
— A SOLUTIONS-DRIVEN NGO PROTECTING
FORESTS, SPECIES,   **AND CLIMATE.**

**NEXT GEN SOLUTIONS USE
WASTE INSTEAD OF FORESTS   TO
MAKE PACKAGING  AND TEXTILES **



10 YEAR **NEXT GEN TRANSITION**

See how catalyzing 60,000,000 tonnes of NEXT GEN alternatives reduces GHG emissions, diverts waste, creates jobs, and keeps vital forests out of paper, packaging, and textiles.

2023

Canopy is catalyzing an ambitious global scale-up of NEXT GEN solutions to take the pressure off forests to make paper, packaging, and textiles and secure the tremendous benefits such a transition would provide.

Tonnes of NEXT GEN production capacity

11,900,000

Tonnes of GHG emissions avoided

48M

Investment (USD)

\$15.5B

Green jobs created

8,400

Hectares of forests protected

16.6M

Tonnes of Ancient and Endangered Forests in the supply chain

93M

Tonnes of agricultural waste diverted

27M

Tonnes of textile waste diverted

1M



2028

Tonnes of NEXT GEN production capacity

40,900,000

Tonnes of GHG emissions avoided

563M

Investment (USD)

\$53.2B

Green jobs created

28,700

Hectares of forests protected

64M

Tonnes of Ancient and Endangered Forests in the supply chain

37M

Tonnes of agricultural waste diverted

317M

Tonnes of textile waste diverted

15M



2033

Tonnes of NEXT GEN production capacity

71,500,000

Tonnes of GHG emissions avoided

1.8B

Investment (USD)

\$92.9B

Green jobs created

50,200

Hectares of forests protected

106M

Tonnes of Ancient and Endangered Forests in the supply chain

0

Tonnes of agricultural waste diverted

1.0B

Tonnes of textile waste diverted

48M

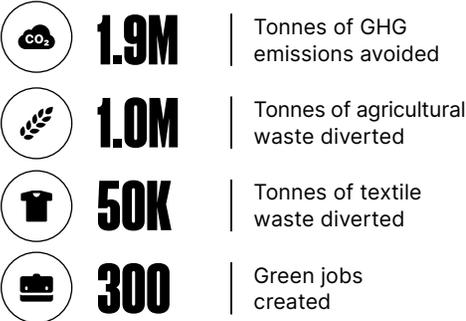


NORTH AMERICA

LAUNCH

2023

North America is one of the world's largest users and producers of pulp and paper. It is also a major agricultural region and source of textile waste. Innovation has already established close to 500K tonnes of NEXT GEN capacity, making this a key region for accelerated scale-up over the decade.

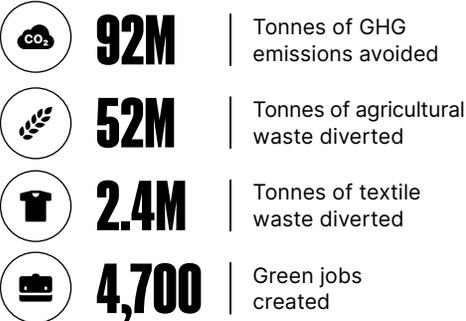


NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$0.6B	0.5M

5 YEARS

2028

By 2028, catalytic financing and impact investors bring capital for a new, low-carbon manufacturing sector. The abundance of agricultural residues and textile waste positions the region to be an early NEXT GEN hub with reduced pollution, job creation, and diversified economic stability for farmers.

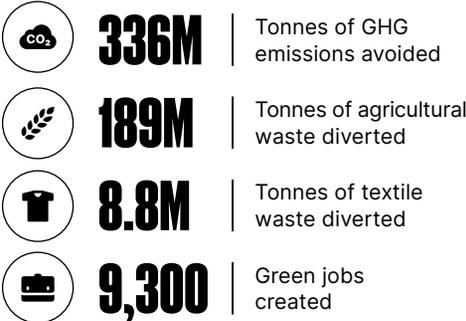


NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$8.7B	6.7M

10 YEARS

2033

By 2033, NEXT GEN mills gain deeper market share, attracting conventional producer and investor support. 13M+ tonnes of NEXT GEN pulp is now in production annually across the US, Canada, and Mexico – taking the pressure off climate-critical forests like the temperate rainforests and Boreal forests.



NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$17.1B	13.2M

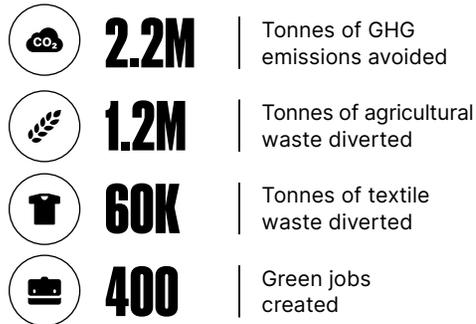


LATIN AMERICA

LAUNCH

2023

Latin America is strongly positioned to transition to a circular manufacturing economy. Cotton-rich textile offcuts generated by garment makers and farming waste by-products – including bagasse residue, pineapple leaves, and straw residues – offer valuable and accessible alternatives to forest-fibre.

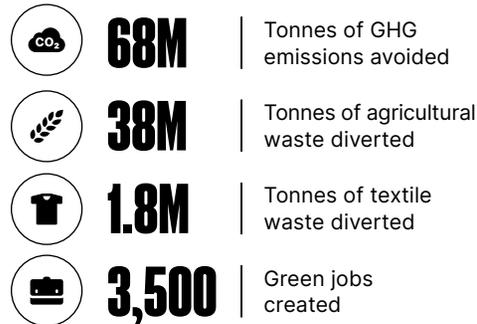


NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$0.7B	0.5M

5 YEARS

2028

Brazil is a wood pulp powerhouse — but an agile industry can pivot. By 2028, tree farms in endangered species habitat and on Indigenous lands are restored to natural forests as new and retrofitted NEXT GEN mills supply low-carbon NEXT GEN alternatives to the fashion and packaging sectors.

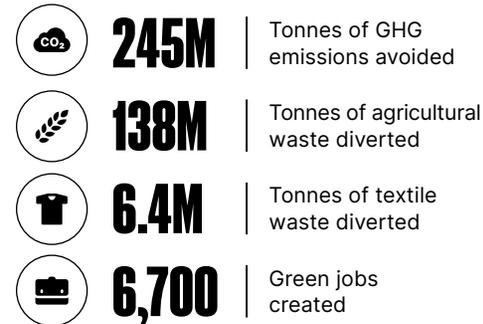


NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$6.4B	4.9M

10 YEARS

2033

By 2033, NEXT GEN mills are built throughout Latin America taking advantage of bountiful supplies of agricultural residues and textile waste to make low-carbon alternatives. This alleviates pressure off climate-critical forests and regional production scales to 9.6M tonnes of NEXT GEN pulp per year.



NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$12.5B	9.6M

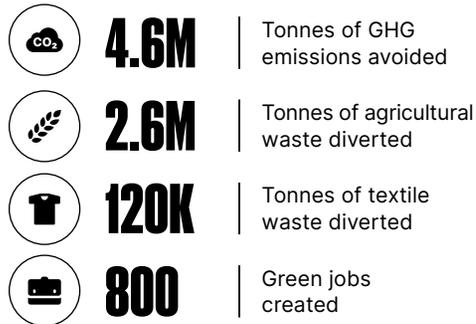


EUROPE

LAUNCH

2023

Europe is a leading consumer and producer of pulp, viscose, and paper. It has a suite of policies that support circularity and halt products from degraded forests. It has significant volumes of textile waste and a cadre of innovators. It is well-positioned to scale NEXT GEN production.

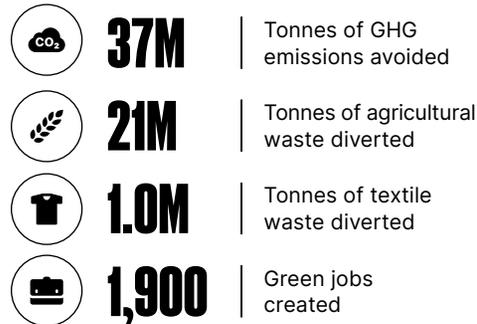


NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$1.5B	1.2M

5 YEARS

2028

By 2028, measures such as zero interest loans for circular manufacturing attract leading NEXT GEN ventures to build in Europe and conventional producers to retrofit mills. Public and private collaborations drive significant on-ramping of these low carbon solutions.

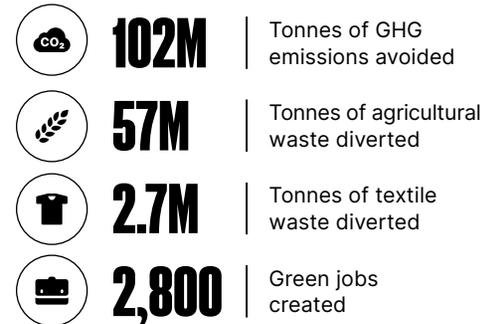


NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$3.5B	2.7M

10 YEARS

2033

By 2033, paper, packaging, and viscose markets routinely preference low-carbon NEXT GEN alternatives to wood that support both corporate and regional climate and biodiversity targets. NEXT GEN production in Europe expands to 4M tonnes per year, attracting conventional producer and investor attention.



NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$5.2B	4.0M



ASIA & MIDDLE EAST

LAUNCH

2023

NEXT GEN feedstocks provide an opportunity for fibre independence, reducing reliance on imported wood. China, as the largest importer of wood pulp and a worldwide shipper of packaged goods, has outsized potential to shift. Scaling NEXT GEN is complementary with numerous Chinese government regulations.

5 YEARS

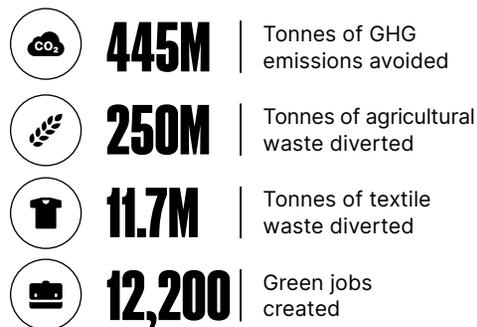
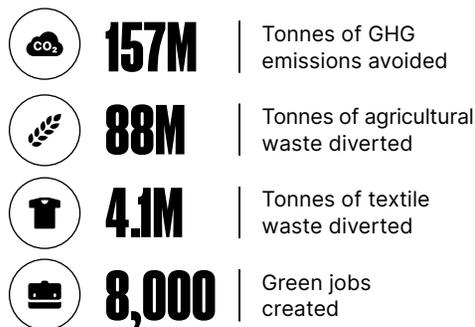
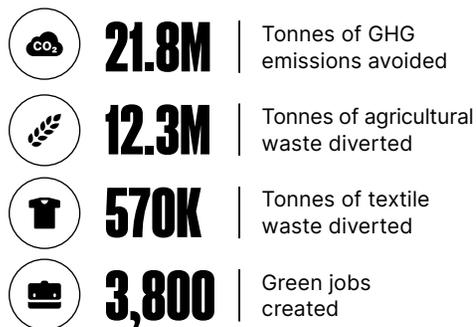
2028

By 2028, regulations in China incentivize a market-leading transition to low-carbon fibre supply for the global viscose and packaging sectors – boosting the economy and setting precedent for surrounding regions and trade partners.

10 YEARS

2033

By 2033, NEXT GEN mill construction has intensified, as have retrofits of industrial wood-based mills to NEXT GEN. NEXT GEN production surpasses 17M tonnes per year across Asia and the Middle East and reduces logging pressure off Ancient and Endangered Forests around the world.



NEXT GEN MILLS

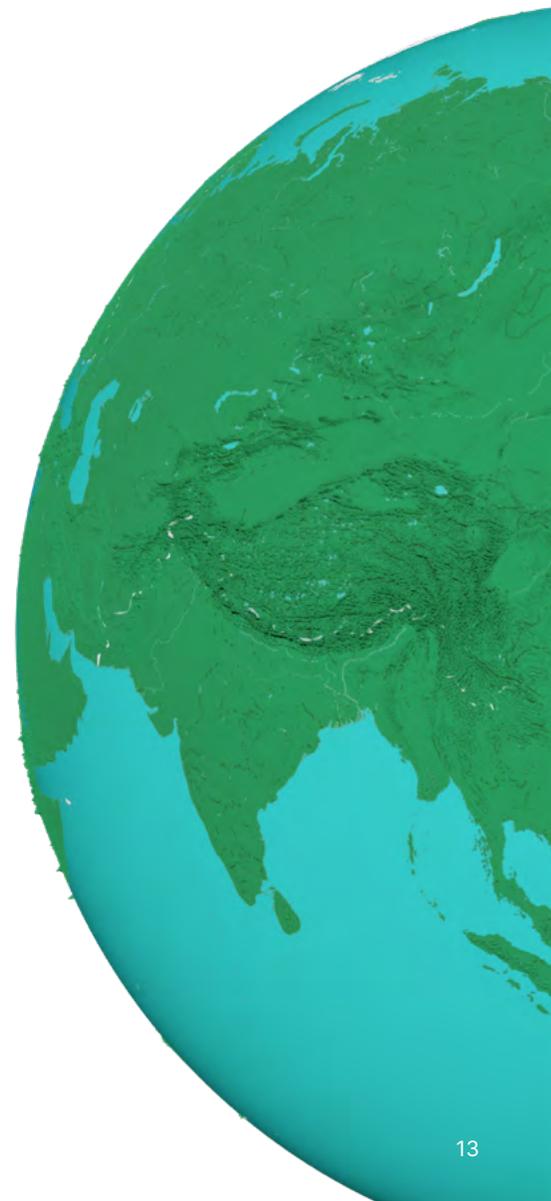
Investment (USD)	Annual production (tonnes)
\$7.1B	5.4M

NEXT GEN MILLS

Investment (USD)	Annual production (tonnes)
\$14.8B	11.4M

NEXT GEN MILLS

Investment (USD)	Annual production (tonnes)
\$22.7B	17.4M



INDIA & SOUTHEAST ASIA

LAUNCH

2023

India is the world's largest textile recycler and second largest manufacturer of straw pulp. The ~100M tonnes of straw India burns annually represents untapped feedstock to dramatically scale NEXT GEN markets and provide a social transformation opportunity for the Indian economy.

-  **15.9M** | Tonnes of GHG emissions avoided
-  **9.0M** | Tonnes of agricultural waste diverted
-  **420K** | Tonnes of textile waste diverted
-  **2,800** | Green jobs created

NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$5.2B	4.0M

5 YEARS

2028

By 2028, Indian paper and viscose sectors are quick to expand production of locally available NEXT GEN fibre, generating income for farmers and thousands of textile recycling jobs. New mills throughout India and Southeast Asia drive low-carbon supply to global fashion and packaging customers.

-  **193M** | Tonnes of GHG emissions avoided
-  **109M** | Tonnes of agricultural waste diverted
-  **5.1M** | Tonnes of textile waste diverted
-  **9,900** | Green jobs created

NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$18.3B	14.0M

10 YEARS

2033

By 2033, India and Southeast Asia have become a global hub for the NEXT GEN fibre market, producing over 25M tonnes per year. Shifting demand away from virgin forest fibre helps secure protection of the region's irreplaceable rainforests and peatlands including Indonesia's Leuser Ecosystem.

-  **644M** | Tonnes of GHG emissions avoided
-  **362M** | Tonnes of agricultural waste diverted
-  **16.9M** | Tonnes of textile waste diverted
-  **17,700** | Green jobs created

NEXT GEN MILLS	
Investment (USD)	Annual production (tonnes)
\$32.8B	25.2M

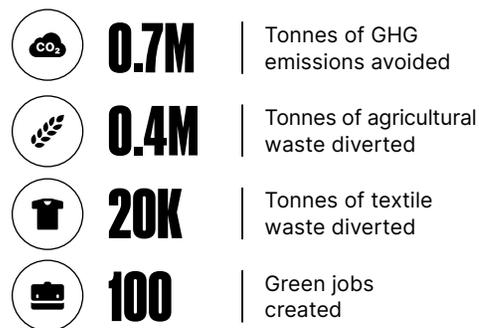


AFRICA

LAUNCH

2023

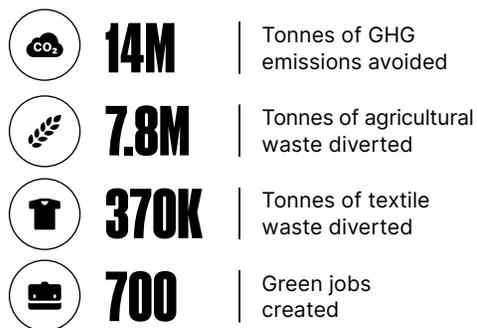
Africa stands to benefit as NEXT GEN tech enables a shift away from pulping trees. Cellulose from cotton textile waste at garment factories or the dumping grounds in Ghana and from agricultural residues will contribute to developing circular manufacturing economies.



5 YEARS

2028

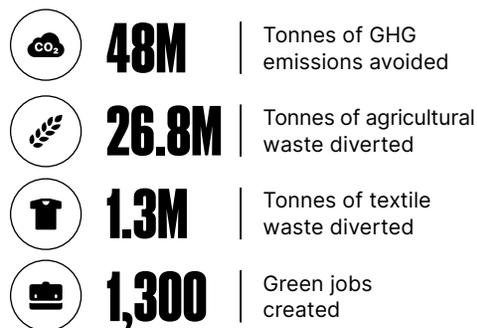
Africa is home to some of the world's most important forests. By 2028, some African nations have begun developing systems to collect cotton textile waste and agricultural fibres along with initial NEXT GEN production.



10 YEARS

2033

Socially and environmentally driven investors enable African farmers and textile recyclers to become suppliers to the growing NEXT GEN pulp sector by 2033. This takes pressure off forests, alleviates pollution, and spurs low-carbon production as Africa adds 1.9M tonnes of NEXT GEN pulp capacity.



NEXT GEN MILLS

Investment (USD)	Annual production (tonnes)
\$0.2B	0.2M

NEXT GEN MILLS

Investment (USD)	Annual production (tonnes)
\$1.3B	1.0M

NEXT GEN MILLS

Investment (USD)	Annual production (tonnes)
\$2.4B	1.9M



CATALYZING GLOBAL SOLUTIONS

Saving climate-critical forests by scaling low impact NEXT GEN alternatives – made from waste textiles and agricultural residues.

NEXT GEN fibres have on average 95% to 130% less GHG emissions, 88% to 100% less land-use impacts and 5x lower impact on biodiversity and threatened species.



NEXT GEN: 2033 IMPACT

Canopy will catalyze an acceleration of NEXT GEN production to secure tangible benefits for people and the planet.



HOW WE'LL DO IT

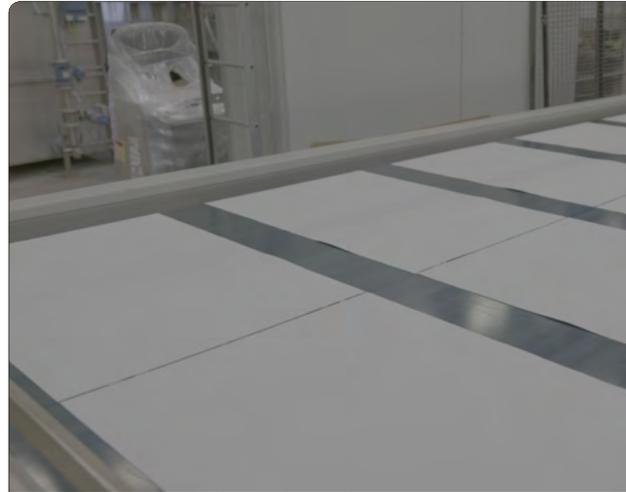
Canopy works with brands, producers, and the world's savviest innovators to transform unsustainable forest-based paper, packaging, and textile supply chains by strengthening demand, scaling NEXT GEN production, and supporting forest protection.



STRENGTHEN DEMAND

To strengthen the transition away from forest fibre to NEXT GEN alternatives we will:

- ✔ Grow market leverage – expanding and deepening our work with brand partners.
- ✔ Boost brand and producer uptake of NEXT GEN alternatives.
- ✔ Leverage market appetite to incentivize wood pulp mills to retrofit to NEXT GEN alternatives and/or build new NEXT GEN mills.
- ✔ Provide robust benefit data and identify ideal mill site locations.



SCALE PRODUCTION

To scale NEXT GEN production we will:

- ✔ Mobilize the investment community to finance NEXT GEN mills globally.
- ✔ Establish a critical mass of NEXT GEN production in six regions alongside our partners – starting in India, North America, and Europe.
- ✔ Work with innovation partners to bring game-changing NEXT GEN technologies – with lower water, chemicals and GHG emissions – to commercial production.



SUPPORT PROTECTION

To support large-scale forest conservation we will:

- ✔ Engage brand partners and producers to bring influence and resources to Indigenous and community-led conservation efforts.
- ✔ Scale back pressure to log irreplaceable Ancient and Endangered Forests.
- ✔ Work with partners to translate the relief of pressure on forests to the long term protection of climate-critical and species rich forests.

TRIED. TESTED. PROVEN.

Here are two examples of the positive, sustainable changes we've already catalyzed.

RENEWCELL

Making Fashion Circular

Renewcell has built the world's first commercial scale NEXT GEN dissolving pulp mill for textiles. It uses millions of old jeans and t-shirts rather than forests to produce pulp for rayon and lyocell textiles.

Renewcell is at the forefront of fashion's circular economy. They are already expanding production capacity with plans to construct more mills.



NAFICI GROUP

Vital Forest-Free Packaging

Nafici Group has built a commercial scale NEXT GEN EcoPulping plant in China making unbleached pulp for packaging from wheat straw and reeds rather than vital forests.

Their biochemical process enhances paper strength allowing for thinner walled boxes. This reduces the amount of paper needed and reduces GHG emissions.

Nafici is planning to build more NEXT GEN mills in Europe and China.



GENERAL

Canopy is a solutions-driven non-profit that was founded in 1999 with the sole purpose of putting an end to the deforestation and degradation of critical forest ecosystems around the world.

Every year over five billion trees are cut down to make paper, packaging, and fabrics such as rayon and viscose. Many of these trees come from the world's Ancient and Endangered Forests. These forests are critically important to stabilizing climate, protecting biodiversity, and securing the rights and livelihoods of millions of Indigenous people around the world.

We want to ensure the world's most vital forests don't end up as packaging for your next shipment box, takeout container, or fabric for your new t-shirt.

That is why, through our CanopyStyle and Pack4Good initiatives, we work with hundreds of global companies, large and small, and the world's savviest innovators to transform unsustainable forest-based supply chains and to catalyze the commercial scale-up of low-carbon, circular, NEXT GEN alternatives.

As we scale NEXT GEN solutions, we will help alleviate pressure on climate-critical forests. Through our Landscapes of Hope work, we will work to ensure this relief of systemic threats translates into conservation in partnership with local allies and decision-makers, and our international brand partners.

If you would like to support our Audacious work through a donation, we would be grateful for your gift [here](#). If you would like to keep up to date on our work, subscribe to our newsletter [here](#).



OUR NEXT GEN PARTNERS

Meet some of the companies who have already partnered with us to facilitate positive change. Together we're changing the game for good.



BESTSELLER

COS

MARA HOFFMAN

EILEEN FISHER

ELK



GAP



hanky panky



HUGO BOSS

INDITEX

KERING



LI & FUNG

LOUIS VUITTON

LVMH

M&S
EST. 1884

ZARA

STELLA McCARTNEY

hh global



PRIMARK



Reformation

SCHOLASTIC

Nanushka



TED BAKER
LONDON

TESCO

Veuve Clicquot

Walmart

puRKA

CONTACT US



If you'd like to contribute, participate, or learn more, please get in touch with us. We want to hear from you. Let's create and scale this transformation together!

hello@canopyplanet.org

A horizontal strip of torn, light brown paper separates the contact information from the bottom section of the page.

NEXT GEN NOW

DATA MAP FOOTNOTE

NEXT GEN fibre production capacity

Represents the annual production capacity of NEXT GEN fibre mills in metric tonnes. 2023 data extrapolated from production values of non-wood fibres provided in [FAOSTAT statistical database, “Forestry production and trade”, FAO \(2021\)](#) (As of April 2023 access date, the most up to date records available are for 2021). Canopy’s projected scale-up in 2028 and 2033 derived from feasibility analyses of both bottom-up and top-down factors, including (a) the existing development pipeline for new mill construction, retrofits, and production shifts, drawn from Canopy’s 30+ producers and innovators partnerships; (b) regional feedstock availability; (c) precedent within the recycling sector, and, ultimately; (d) science-based ecological imperatives to eliminate Ancient and Endangered Forests from the supply chain.

Investment

Represents the total capital expenditure investment needed to bring NEXT GEN fibre mills online at sufficient scale to meet annual production capacity targets. Assumes an average financing cost of \$1300/tonne derived from industry case studies, market data, and direct producer relationships.

Ancient and Endangered Forest fibre in the supply chain

Represents the annual volume of forest fibre remaining in the paper, packaging, and textile supply chains that is sourced from [Ancient and Endangered Forests \(A&E\)](#). 2023 data assumes 50% of current wood fibre supply reported in the [FAOSTAT statistical database](#) is A&E fibre. 5-year and 10-year projections assume A&E fibre is proportionally offset by both the scale-up of NEXT GEN fibre production and continued increases in recycled fibre production, alongside reduction initiatives that moderately slow overall market growth. Methodological details related to the role of each of these levers as well as the proportion of Ancient and Endangered Forest fibre in the supply chain available in [Survival: A Pulp Thriller, Canopy \(2020\)](#).

Forests protected

Represents the total anticipated forest land opened up for conservation or long-term logging moratoria due to availability of NEXT GEN fibres to replace virgin wood demand. 2023 data based on actual conservation secured to date that was either strategically supported by or directly championed by Canopy. 5-year and 10-year data calculated using regional LCA data on land-use required to supply conventional mills, which have an estimated global-weighted average of 1.1 hectares per tonne produced.

GHG emissions avoided

Represents the total tonnes of carbon dioxide equivalent (CO2e) avoided by the production of NEXT GEN fibres relative to virgin forest fibres. Assumes each tonne of NEXT GEN fibre avoids 4 tonnes of CO2e, based on an LCA-averaged estimate across eight LCA studies that collectively compared 10 NEXT GEN fibres (including a mix of wheat straw, flax byproducts, and recycled textiles) and 18 virgin tree fibres (including a mix of tree farms, managed forests, and primary forests). Annual GHG savings are summed relative to the 2023 baseline to produce cumulative totals in 2028 and 2033. Methodological details available in [Taking the pressure off irreplaceable forests: Climate-smart solutions for paper, packaging, and textile fibres, Canopy \(2023\)](#).

Agricultural residues and textile waste diverted

Represents the total tonnes of materials diverted from conventional waste streams (e.g., landfill, incineration) and repurposed as NEXT GEN feedstocks. Assumes a 90:10 ratio between agricultural residues (primarily converted into paper and packaging) and textile waste (primarily converted into Man-Made Cellulosic Fibres) needed to support NEXT GEN production capacities, as informed by recent trends in NEXT GEN scale up and historical ratios between wood pulp for paper and dissolving pulp for textiles in the [FAOSTAT statistical database](#). Assumes industry average pulping yields (i.e., raw material to fibre ratios) of 40% for agricultural residues and 95% for textile waste. Annual volumes diverted are summed relative to the 2023 baseline to produce cumulative totals in 2028 and 2033.

Green jobs created

Represents the number of jobs directly employed by NEXT GEN mill operators. Assumes 70 jobs created per 100,000 tonnes of NEXT GEN production capacity as derived from industry case studies. Conservatively excludes anticipated indirect jobs that are not quantified here, such as from increased farmer revenue from the sale of agricultural residues, municipal textile collection, fibre separation and sorting, etc.

Recommended Citation

Canopy. «NEXT GEN Now: Data Map». Accessed on [date] from www.nextgennow.ca