Mindful Fashion New Zealand

CLIMATE ACTION PROGRAMME

CLIMATE ACTION GUIDE

Part 1

Introduction to Climate Action

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PART 1

About Mindful Fashion

At Mindful Fashion New Zealand we are working to advance a fashion and textiles ecosystem in Aotearoa New Zealand where business, nature and people thrive within planetary boundaries. Our mission is to unite the industry to create an innovative, full-circle and thriving future.

INTRODUCTION

Mindful Fashion New Zealand - Climate Action Guide

The Mindful Fashion Climate Action Guide supports businesses through the process of measuring their organisational greenhouse gas (GHG) emissions and developing reduction strategies. This guide has been developed after a successful pilot programme in 2022 which took 10 businesses through the process of measuring their emissions and developing reduction strategies. This action oriented approach is designed to be accessible and build capability within businesses regardless of size.

Mindful Fashion New Zealand has developed this guide directly in response to industry needs. There is compelling scientific evidence supporting the critical need for action. Our recent analysis shows New Zealand clothing and textile businesses[1] want to take climate action but face barriers including time, cost and know-how.

How its been developed

The Guide has been developed by Mindful Fashion New Zealand and informed by the Climate Action pilot programme run in 2022 in conjunction with Ekos. The Guide has been developed in-line with international standards the Greenhouse Gas Protocol Corporate Reporting Standard and ISO:14064-1 (2018).

An organisational footprint covers a businesses New Zealand headquarters, and any retail stores, manufacturing units, warehouses and other facilities the organisation has operational control over. It includes emissions generated from the use of electricity, purchased fuel including company vehicles and gas, business travel and accommodation, waste and freight. This Guide does not cover emissions generated at suppliers facilities during production or emissions from product use & disposal. Facilities outside NZ that are within operational control may be covered if required.

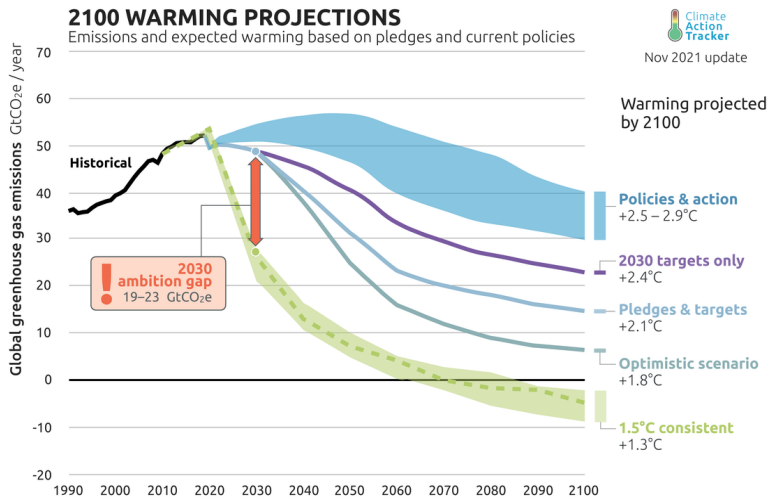
CLIMATE CHANGE AND EMISSIONS

The climate emergency is one of the most significant and threatening challenges of our time. Without urgent action to shift from our current path we will face devastating consequences, with implications for where we live, how we work, how we grow food, what we consume and how we provide services vital to well-being. Everyone has a duty to act.

Scientists agree that the warming planet can be attributed to the increase of greenhouse gases in the atmosphere. Today we are already seeing the impact of a 1.1°C global temperature increase above the pre-industrial period driven largely by increased carbon dioxide emissions into the atmosphere and other human activities: loss of sea ice, accelerated sea level rise and longer, more intense heat waves[2].

The diagram shows just how urgent an issue climate change is. By 2100 it is predicted that, if nothing changes, the increased temperatures on the earth will make life as we know it unsustainable.

Figure 1: 2100 Warming projections. *Source: Climate Action Tracker 2021*

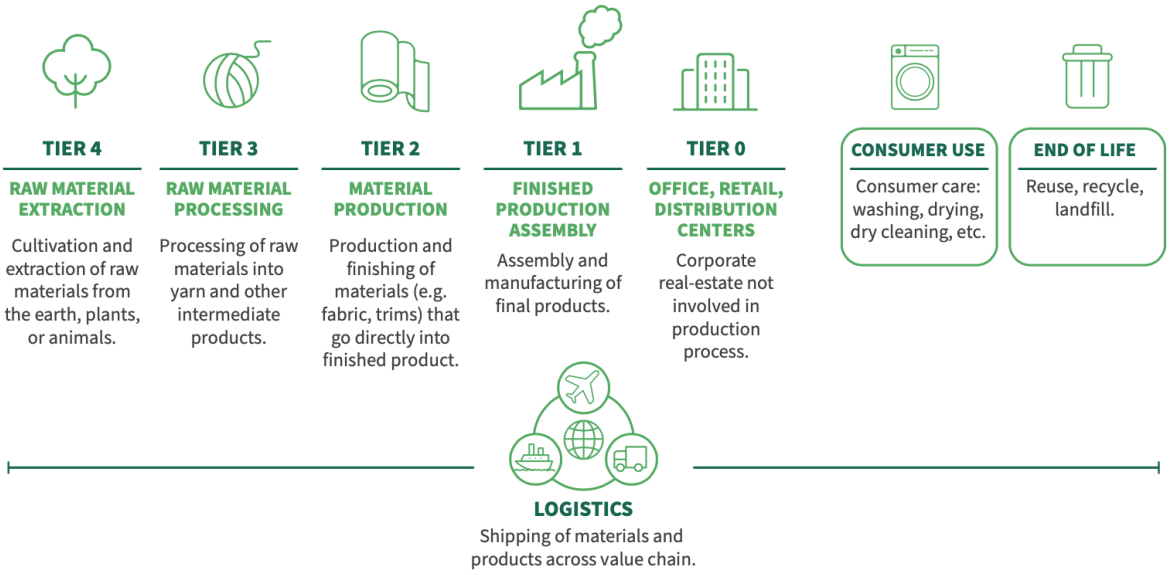


Fashion and Climate

The fashion industry is the third highest producer of greenhouse gas emissions globally[3]. The sector is a major contributor to climate change, with estimated emissions ranging from 4 to 8 percent of the world's total[4]. The industry is on track to increase emissions 50% by 2030 putting it on a 3°C trajectory[5], double the volume of emissions required to align with the 1.5°C pathway outlined in the Paris Agreement.

Emissions occur along the value chain from raw material production to processing, manufacturing, retail, care and disposal. See Figure 2.

Figure 2: Apparel and Footwear Value Chain | *Source: Fashion Charter Climate Playbook*



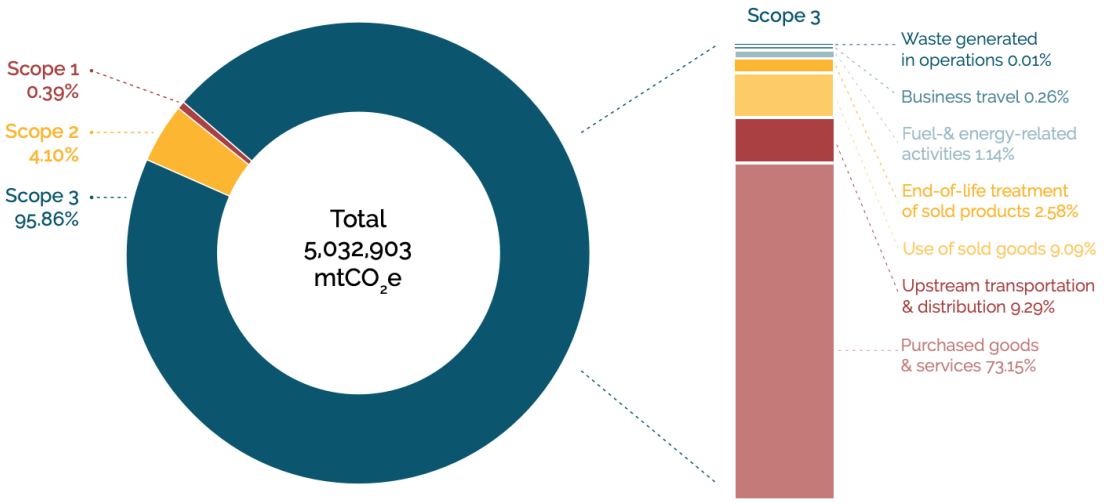
As outlined in the WRI Roadmap to Net Zero, the vast majority of emissions lie in the upstream value chain of brands, in particular raw material extraction, processing and production. While Stage 1 of our Guide deals **primarily with organisational emissions**, we will seek to address further value chain emissions in Stage 2.

For companies wanting to make a start now, beyond reducing emissions by producing and selling fewer items, The Science Based Targets Initiative describes the two primary ways for the sector to reduce emissions in line with science:

- Aggressively deploy energy efficiency and renewable energy across the value chain;
- Substitute materials with lower environmental impact alternatives (a key lever for SMEs in New Zealand with limited ability to influence supplier energy use).

An example footprint from an apparel company is shown below.

Figure 3: C&A Total GHG Emissions in 2017, by Scope. | *Source: Science Based Target Apparel Guide*



Source: C&A 2018.

Risks and Opportunities

The industry is under threat from a range of climate change related risks, including:

• **Regulations**	GHG emissions-reduction laws or regulations introduced or pending in regions where the company, its suppliers, or its customers operate.
• **Cost**	Suppliers passing higher energy- or emissions-related costs to customers
• **Scrutiny**	Water use in some textile producing countries is under scrutiny due to increased scarcity.
• **Disruption**	Adding delays, uncertainty and cost due to Production facilities located in countries with higher risks of severe weather events such as fires, droughts, floods and hurricanes.
• **Product**	Decreased demand for products with relatively high GHG emission footprints; increased demand for competitors' products with lower emissions footprints.
• **Reputation**	Consumer/stakeholder backlash or negative media coverage about a company, its activities, or value chain based on GHG management practices and emissions.

However this disruption to business as usual provides opportunities for business to innovate, alongside building strong partner and customer networks. Opportunities include:

- A reduction in GHG emissions often corresponds to decreased costs (upstream and downstream) and an increase in companies' operational efficiency.
- A comprehensive approach to GHG management provides new incentives for innovation in supply chain management and product design.

- Low-emissions goods and services are increasingly more valuable to consumers, and demand will continue to grow for new products that demonstrably reduce emissions.
- Improve stakeholder relationships through proactive disclosure and demonstration of environmental stewardship.
- External parties (e.g. customers, investors, regulators, shareholders, and others) are increasingly interested in documented emissions reductions.

Global Ambition

The Fashion industry globally is taking some action to address emissions. In December 2018 a group of leading brands and NGOs launched the Fashion Industry Charter for Climate Action, under the United Nations. With over 180 signatories the charter sets out commitments to meet a 1.5°C pathway, including a reduction in GHG emissions of 45 percent by 2030.

The Sustainable Apparel Coalition (SAC) has an objective that all SAC members must achieve a 45% greenhouse gas (GHG) emissions reduction in line with SBTs by 2030 against a 2019 baseline, and has recently released a SAC Guide for Members to support this.

Other global initiatives include the Apparel Impact Institute's WRI Roadmap to Net Zero which lay outs the interventions needed to unlock transformative decarbonisation; the Science Based Targets Initiative which supports companies to use science to set reduction targets; and the Fashion Pact, a global coalition of over 70 businesses committed to stopping global warming, restoring biodiversity and protecting the oceans. See Industry Commitments and Initiatives in the Appendix for details.

The Need for Collaborative Action

Fashion and textile companies are uniquely placed to support New Zealand's journey to a low carbon future. While any one business can make progress in reducing operational emissions under their direct control with the right knowledge and tools, transformative change across the industry and value chain will require concerted collaborative action. Our industry has shown its appetite to work together to address common challenges. By arming businesses with the tools and knowledge, we can then facilitate further collective action to create innovative local solutions to reduce emissions.

UNDERSTANDING GHG ACCOUNTING

Greenhouse Gases

Greenhouse gases are gases in Earth's atmosphere that trap heat. They let sunlight pass through the atmosphere, but they prevent the heat that the sunlight brings from leaving the atmosphere, thus creating a warming effect.

GHGs such as carbon dioxide enter the atmosphere primarily from burning fossil fuels - coal, natural gas, and petroleum - for energy use. Other GHGs include Methane, which comes from landfills, agriculture, and oil and natural gas operations, and Nitrous oxide, which comes from using nitrogen fertilisers and certain industrial and waste management processes.

Greenhouse Gas Accounting

GHG accounting measures the emissions generated from activities during a specified period (usually a period of one year), and covers the seven main greenhouse gases: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6) and nitrogen trifluoride NF3. To enable a meaningful comparison between the seven gas types, GHG emissions are commonly expressed as carbon dioxide equivalent or CO_2e.

Measuring your organisation's emissions requires you to gather activity data for the specified period, for activities which are known to generate emissions. For example, the amount of fuel used in a company vehicle. The activity data is multiplied by emissions factors to determine the quantity in tonnes (or kg's) of greenhouse gases generated.

This process allows you to produce a GHG inventory of your organisation's emissions for the specified period, showing an overview of emissions from different categories and activities.

Accounting and Reporting principles

There are two common standards used in GHG Accounting, the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, and ISO 14064-1:2018. All greenhouse gas accounting and reporting should be based on the following five basic principles defined by the GHG Protocol and ISO 14064-1:2018.

• **Relevance**	Ensure the inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.
• **Completeness**	Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.
• **Consistency**	Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes.

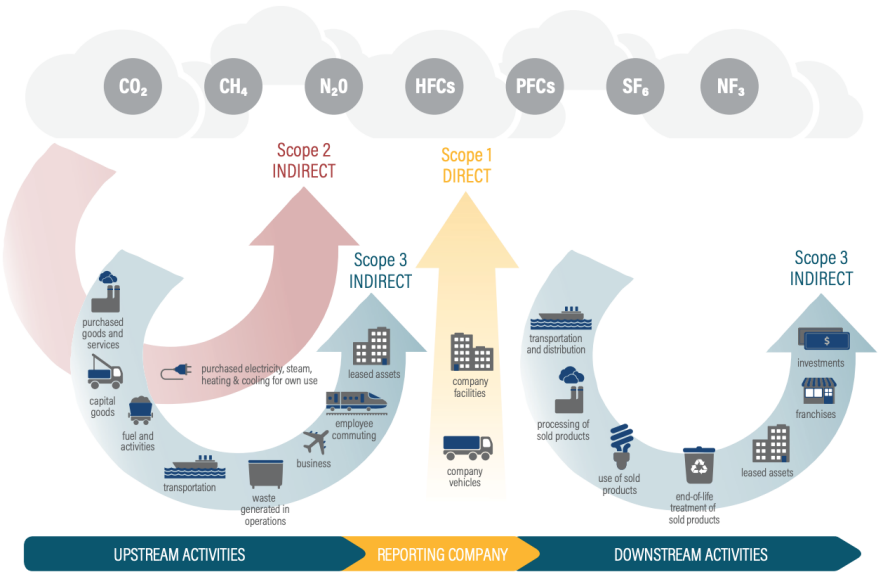
• **Transparency**	Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any assumptions and reference methodologies and data sources used.
• **Accuracy**	Ensure the quantification of GHG emissions is systematically neither over nor under actual emissions, and that uncertainties are reduced as far as practicable.

How emissions are categorised & reported

The GHG Protocol places emission sources into Scope 1, 2 and 3 activities, while ISO 14064-1:2018 places emissions into Categories (see Fig 2 for overview). GHG Scopes are:

- **Scope 1**: Direct GHG emissions from sources owned or controlled by the organisation (eg. company vehicle fuel).
- **Scope 2**: Indirect GHG emissions from the generation of purchased energy that the organisation uses (eg. electricity).
- **Scope 3**: Other indirect GHG emissions occurring as a consequence of the activities of the organisation but generated from sources that it does not own or control (eg, air travel). Scope 3 is broken down into 15 'Source Categories'.

Figure 2: GHG Protocol Corporate Standard emissions categories



How emissions are quantified

To quantify and report GHG emissions, organisations need data about their activities for each of the categories being reported (for example the quantity of fuel used). This Guide provides information on calculating emissions from Scope 1, Scope 2, and a limited number of Scope 3 (and their co-relating Categories) sources as identified in Table 1.

Table 1. Emissions by Scope, Category and Source Category

Scopes used in GHG Protocol	Categories used in ISO 14064-1:2018	Emissions Source Category (GHGP)	Activity Source (For this Guide)	Included in prog
Scope 1	Category 1	Direct GHG emissions from sources owned or controlled by organisation	Stationary Fuel Combustion (eg. LPG)	✔
			Mobile Fuel combustion (eg. petrol, diesel)	✔
Scope 2	Category 2	Indirect GHG's from purchased energy	Purchased electricity, steam, heat	✔
Scope 3	Category 3 Indirect GHG emissions from transportation	Upstream transportation and distribution	Inwards freight	✔
			Outwards freight	✔
		Business Travel	Business travel and accommodation	✔
			Private mileage	✔
		Employee commute	Private vehicle, public transport	X
		Downstream Transport & Distribution	Transport to end consumer (consumer pays)	~
			Clients collecting products	X
		Working from home	Emissions generated with employees working from home	X
	Category 4 Indirect GHG emissions from products an organisation uses	Purchased goods and services	Water	✔
			Emissions from purchased goods and services used by the organisation	X
		Capital Goods	Emissions from Capital goods purchased	X
		Waste generated in operations	Disposal of solid (Landfill) waste	✔
			Disposal of liquid (Wastewater) waste	✔
		Fuel & energy related emissions	Transmission and distribution losses	✔
	Category 5 Indirect emissions associated with the use of products from the organisation	Use of products	Emissions generated in the use of sold product / service	X
		Processing of sold products	Processing of products sold by the organisation	X
		Leased assets	Emissions from downstream leased assets	X
		End of Life of products	Emissions generated in the end of life disposal of sold product	X
		Investments	Investments & franchises	X
	Category 6	Indirect GHG emissions (other sources)	All indirect emissions from all other sources.	X

REFERENCES

1. Mindful Fashion Sustainability Insights Report, 2021. Available from: <https://mindfulfashion.co.nz/news/mindful-fashion-nz-sustainability-insights-report>

2. Climate Change, How do we know? Nasa. Available from: <https://climate.nasa.gov/evidence/>

3. The Circular Fashion Ecosystem A Blueprint For The Future. Positive Fashion: Institute of Positive Fashion. (n.d.). Available from: <https://instituteofpositivefashion.com/uploads/files/1/CFE/Circular_Fashion_Ecosytem_Report.pdf>

4. Roadmap to Net Zero. Apparel Impact Institute, World Resources Institute. Available from: <https://apparelimpact.org/roadmap-to-net-zero-report-2021/>

5. Fashion on Climate, 2018. Global Fashion Agenda and McKinsey & Co. Available from: <https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/fashion%20on%20climate/fashion-on-climate-full-report.pdf>

FURTHER RESOURCES

Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, Revised Edition.

- https://ghgprotocol.org/corporate-standard

Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

- https://ghgprotocol.org/standards/scope-3-standard

ISO 14064-1:2018 - Greenhouse gases - Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals.

- https://www.iso.org/standard/66453.html

Measuring emissions: A guide for organisations: 2022 detailed guide. Ministry for the Environment.

- https://environment.govt.nz/publications/measuring-emissions-a-guide-for-organisations-2022-detailed-guide/

TERMINOLOGY

Activity Data	Activity data refers to the data associated with an activity that generates GHG emissions. This activity data is collected in physical units or energy units.
Baseline	The baseline is the state against which change is measured, i.e. GHG emissions that have occurred in the past, prior to the introduction of reduction strategies.
Boundary	The inventory boundary determines which emissions are accounted and reported by the organisation. GHG accounting and reporting boundaries can have several dimensions, i.e. organisational, operational, geographic, etc.
Carbon Credit (offset)	A carbon offset credit is a transferable instrument to represent an emission reduction of one metric tonne of CO2-e. The purchaser of an offset credit can "retire" it to claim the underlying reduction towards its own GHG reduction goals.
(Carbon) Footprint	Total greenhouse gas emissions caused by an individual, organisation, or product, expressed as CO2 equivalent (CO2-e).
Category	Emissions are broken down into 6 Categories for ISO 14064-1:2018 standard, and 15 Categories for the GHG Protocol.
Climate neutral	Climate neutral means that an activity releases *net zero* GHG emissions into the atmosphere. This can either be achieved by balancing GHG emissions with GHG removal or simply eliminating GHG emissions altogether.
Carbon neutral	Carbon neutral means that an activity releases *net zero* carbon (CO2) emissions into the atmosphere. This can either be achieved by balancing carbon emissions with carbon removal or simply eliminating carbon emissions altogether.
Climate positive	Climate positive or carbon negative means that an activity goes beyond achieving net zero carbon emissions by removing additional CO2 from the atmosphere.
CO2 equivalent (CO2-e)	A CO2 equivalent (CO2-e) is a unit of measurement that is used to standardise the climate effects of various greenhouse gases by comparing their emissions based upon their global warming potential.
Cradle to gate	Cradle to gate is a commonly used boundary in LCA studies, which considers all activities starting with the extraction of materials from the earth (the cradle), their transportation, refining, processing and fabrication activities until the material or product is ready to leave the factory gate.
Cradle to grave	Cradle to grave is a commonly used boundary in LCA studies, which considers the cradle to gate results but also includes the impacts associated with the transportation, use, maintenance and end of life (disposal, reuse, recycling).

Direct emissions	Emissions from sources are owned or controlled by the reporting organisation.
Downstream	Activities that occur once products / services exit the organisation.
Emission Factor	An emission factor converts activity data into emissions data: ie the GHG emitted per unit of activity.
Global warming potential (GWP)	The factor describing the radiative forcing impact (trapped heat in the atmosphere) of one unit of a given GHG relative to one unit of carbon dioxide. GWP values convert GHG emissions data for non-CO2 gases into units of carbon dioxide equivalent.
Greenhouse gas (GHG)	Greenhouse gases trap heat radiated from the sun in the atmosphere, warming the planet's surface. The Kyoto Protocol and the GHG Protocol cover the following seven greenhouse gases: Carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6), and nitrogen trifluoride (NF3).
Indirect emissions	Emissions that are a consequence of the operations of an entity but occur at sources owned or controlled by another entity.
Insetting	Insetting generally refers to organisations investing in emissions reduction projects in their supply chains or adjacent to their supply chains. In contrast to offsetting, the investment remains within an organisation's value creation cycle.
GHG Inventory	A GHG inventory contains all applicable emissions for an organisation within a defined boundary during a period. An inventory is key to *measuring* emissions.
GHG Report	A GHG report expands on the inventory with context about the organisation, as well as analysis and progress over time. A report is key to *reporting* emissions.
Net zero	"Net zero" refers to achieving a balance between emissions produced and emissions taken out of the atmosphere through a combination of internal reduction efforts and external offset purchases.
Offsetting	Offsetting broadly refers to a reduction in GHG emissions – or an increase in carbon storage (e.g., through land restoration or the planting of trees) – that is used to compensate for emissions that occur elsewhere.
Scope (1, 2, 3)	Emissions are broken down into three scopes by the Greenhouse Gas Protocol.
Baseline Year	A specific year or an average over multiple years against which an organisation's emissions are tracked over time (against a target).
Upstream	Upstream defines activities related to the organisation's suppliers that occur prior to activities that occur within the organisation itself. EG. raw material production.

INDUSTRY COMMITMENTS & INITIATIVES

UN Fashion Industry Charter for Climate Action	• Supports the goals of the Paris Agreement in limiting global temperature rise. • Signatories commit to 45% GHG emission reductions in scope 1, 2 and 3 by 2030 and Net-Zero emissions by 2050. • Sourcing 100% of electricity from renewable sources by 2030, environmentally friendly raw materials, and phasing out coal from the supply chain by 2030.
Science Based Targets Initiative	• Participants set GHG emission reduction targets in line with climate science (aligned with 1.5°C or well- below 2°C trajectories). Scope 3 targets must be set. • Provide recommendations, advice and guidance on best practices for retailers, brands, finished goods manufacturers and mills.
Fashion Pact	• Supports the UN Fashion Industry Charter • A voluntary pact with 70+ signatories • Ambition to implement SBTs, offset remaining emissions to achieve net-zero by 2050, commit to sustainable sourcing of key raw materials, and use 100% renewable energy across own operations.
The Swedish Textile Initiative for Climate Action	• Supports apparel and textile companies to set SBTs and reduce their GHG emissions in line with 1.5oC warming pathway. • Development of joint projects and cross-sector collaborations
Textile Exchange Climate +	• Goal: 45% reduction in GHG emissions from producing fibres and raw materials by 2030. Known as Tier 4 of the supply chain, it accounts for 24% of the industry's GHG impacts related to it. • Aligns with SBT and UNFCCC Fashion Charter. • Mindful Fashion is a member of Textile Exchange.
Apparel Impact Institute - Roadmap to Net Zero	• In collaboration with WRI, has developed an Industry Roadmap to Net Zero, outlining 6 interventions necessary in the supply chain to reduce emissions by 45% by 2030 and reach net-zero by 2050 in line with Paris Agreement targets. • Works globally with supply chain to activate funding mechanisms and implement reduction strategies from high emission activities eg. switching plants to renewable energy.

For further information see Part 2 and 3 of our Climate Action Guide.
www.mindfulfashion.co.nz