Reformation

How to be a Climate Positive Business

Introduction

Climate scientists agree that global warming is the biggest issue facing our planet. The fashion industry plays a significant role, contributing up to 10% of our global emissions. The industry is on track to double its impact by 2050, but for the good of our planet, we must halve our emissions in the next decade.

Ref has done a lot of good work so far, but we, along with everyone else, need to do more. We've been carbon neutral for over five years, but we realize we need to invest in solutions that remove more greenhouse gasses than we emit to really make a difference. So we're committed to being Climate Positive by 2025, and we want you to join us.

We made this guide for businesses that are ready to be Climate Positive, or just figuring out what all this stuff means, so you can take a first step. We don't have all the answers, but we're sharing what we've learned so far, and will continue to do so as we make progress.

Before we get into it, here are a few terms we'll use to talk about this stuff

Climate change

Climate change refers to persistent changes in the atmosphere that last decades or more, and are caused directly or indirectly by human activity.

Carbon footprint

A carbon footprint is a measurement of impact on the environment in units of carbon dioxide equivalents emitted. It can be calculated for a person, a product, a corporation, or even a country; everything from a cheeseburger to a plane ride has one. It is a way to measure one's contribution to global warming.

Greenhouse gases (GHG)

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. It's sort of a one-sided relationship. The main greenhouse gases are: Water vapor, Carbon dioxide, Methane, Ozone, Nitrous oxide, Chlorofluorocarbons. Human activities are changing Earth's natural greenhouse effect causing the Earth's atmosphere to trap more heat, resulting in a warmer planet.

Carbon dioxide

CO2 is a naturally occurring greenhouse gas in the atmosphere, concentrations of which have increased as a result of humans' burning of wood, coal, oil, and natural gas. A heavy colorless gas, CO2 is absorbed from the air by trees and plants in photosynthesis, a magical process that makes us want to marry trees and plants.

Carbon dioxide equivalent (CO2e)

Each greenhouse gas has its own global warming potential (GWP)—which means some may be more potent than others. We use this metric to compare the various emissions from each greenhouse gas. The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP.

Science-based targets (SBTs)

Emissions reductions targets adopted by companies are considered "science-based" if they are in line with the level of decarbonization required to keep global temperature increase below 2°C compared to pre-industrial temperatures, as described by the Intergovernmental Panel on Climate Change (IPCC).

1.5°C pathway

A more ambitious SBT that is consistent with the level of decarbonization required to keep global temperature increase to 1.5°C compared to pre-industrial temperatures.

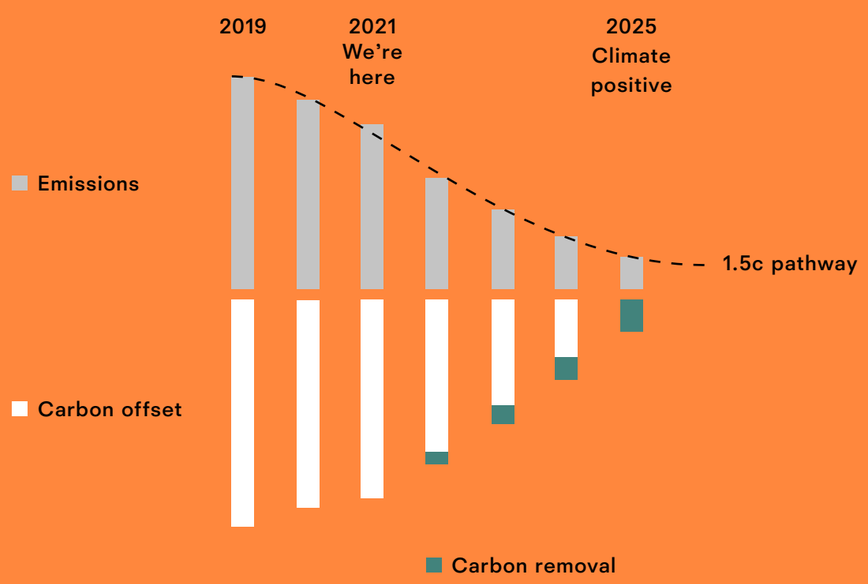
We'll call out other definitions along the way and promise not to use too many acronyms.

Make a commitment

Commit to something. The bolder and harder to achieve, the better. Choose something that motivates your team to treat this like the crisis it is.

We chose to be Climate Positive by 2025. There isn't a standardized or agreed upon definition of what that means yet, but the planet can't wait. So we're defining Climate Positive as meeting our greenhouse gas reduction targets and removing more emissions than we produce. To prevent 'greenwashing,'–AKA making something seem more sustainable than it actually is– it's super important to clearly define what you are committing to. Earth matters more than marketing.

Climate positive approach



If you're unsure where to start, we don't blame you. There are a lot of terms out there: climate or carbon neutral, net zero, carbon negative/positive. Here's a chart defining them to help you out:

	Carbon Neutral *(aka Climate Neutral)*	Net Zero	Climate Positive *(aka Carbon Negative)*
Offset 100% of your carbon footprint	✓	✓	✓
Offset only via projects that remove CO2e from the atmosphere (not just reduce or avoid emissions)		✓	✓
Reduce CO2e emissions in line with science-based targets		✓	✓
Offset or inset more than your carbon footprint			✓

Stuff that helped

- *Climate Neutral certification* - We made our carbon neutral commitment and practices official with help from these guys. They are great, and help companies do this in a more transparent and third-party verified way.
- *SBTi Net Zero* - We're following this organization's work in defining and standardizing Net Zero and Climate Positive commitments.

Measure a baseline

You can’t solve a problem if you don’t know what it is. In order to set a reduction target, you need to know your baseline. So start by measuring your carbon footprint, aka your greenhouse gas inventory.

Your inventory is broken into 3 different scopes

Scope 1

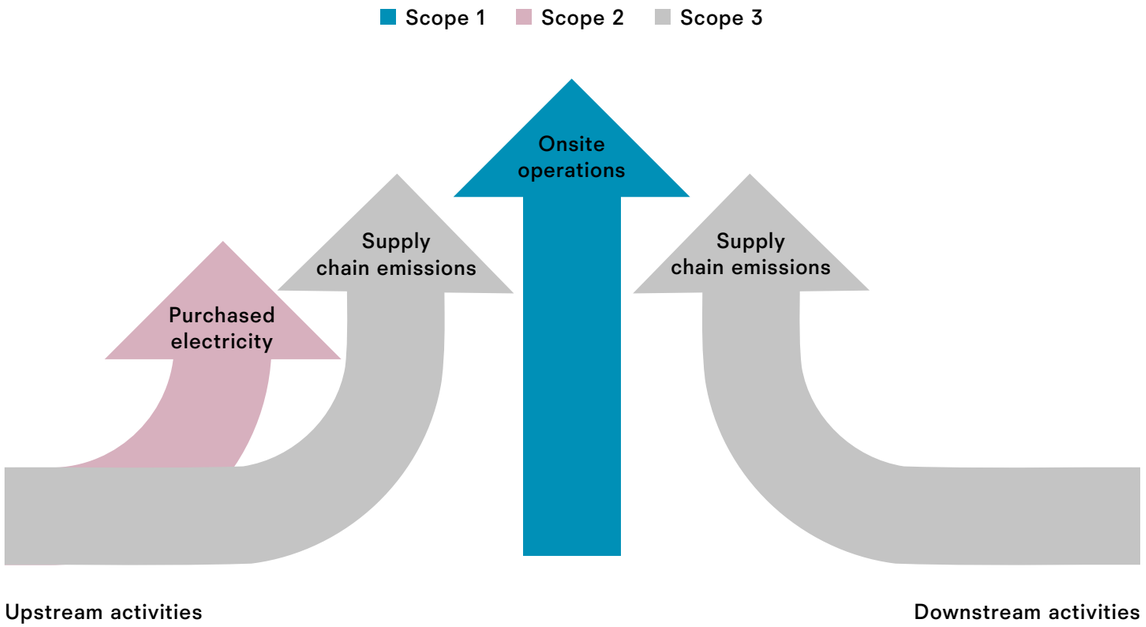
Emissions that directly occur from sources that are controlled or owned by your organization. Like company-owned vehicles.

Scope 2

Indirect emissions from the generation of purchased electricity. These emissions depend on the utility provider and the source of electricity.

Scope 3

Emissions associated with supply chain activities, from growing the raw material used in your product, to distributing stuff to your customers. Scope 3 is broken down into 15 categories to help organize each activity and prevent double counting. For most companies—especially if you're in the fashion industry like us--these will encompass 85-95% of your total inventory.



Basic steps

1.

Decide if you want to measure it yourself or hire it out. As technical as all this sounds, it really can just be a spreadsheet. We created our baseline ourselves in 2019, and had consultants review and verify it along the way.

2.

Pick a tool and methodology to track your emissions. Good news is, there are existing databases and emission factors available to help companies measure these things. Most should be based on the Greenhouse Gas Protocol's Corporate Standard developed by the World Resources Institute, so look out for that to make sure it's legit.

3.

Gather and input the data.

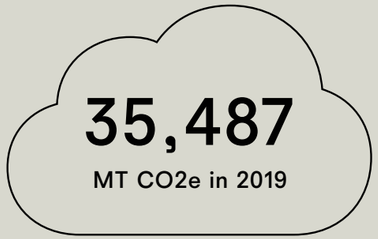
For Scope 1-2, this usually means you'll need to get ahold of your utility bills and look up local grid emission factors.

For Scope 3, there can be a lot more factors. An easy way to get an estimate is to run your accounting details through one of the many web-based footprinting tools (see resources). This way basically tells you about how much you emit based on how much you spend.

What we learned

Reformation's footprint

Scope 1: 0.4%
Scope 2: 0.01%
Scope 3: 99.6%



<1%	Fuels	13%	Transport	24%	Capital goods*
<1%	Electricity	31%	Materials	3%	Garment care
1%	Business travel*	<1%	Manufacturing	<1%	Waste & end of life
3%	Commuting*	24%	Other purchased goods & services*		

Categories with asterisk are calculated with spend-based data. In total 52% of inventory is spend-based. All other categories are calculated using activity data (e.g. volume of raw materials) and emission factors from secondary sources.

Prioritize what can make the most impact with the lowest effort. We're saving the hard stuff with the lowest impact for last. For us, the business activity that has the biggest impact (31%) is our material sourcing. About half of our greenhouse gas inventory was purchased goods and services (e.g. marketing or legal expenses) or capital goods (e.g. technology projects orconstruction of stores) in Scope 3. We also have other reduction opportunities in energy management and transportation, so these will be our focus areas to start.

As we said, you can get a quick and dirty understanding of your Scope 3 impacts by using a spend-based method. Essentially, you use accounting data to measure emissions. This approach tends to result in overstated inventories, because the emission factors are meant to be general and conservative. In our experience, this led to purchasing more offsets than needed to reach our climate neutral certification requirements. So, tough on budgets, but better for the planet. Since we don't have exact numbers, it'll be more difficult to track our progress moving forward. So as a next step, we'll dig into each of these activities to get primary and specific data.

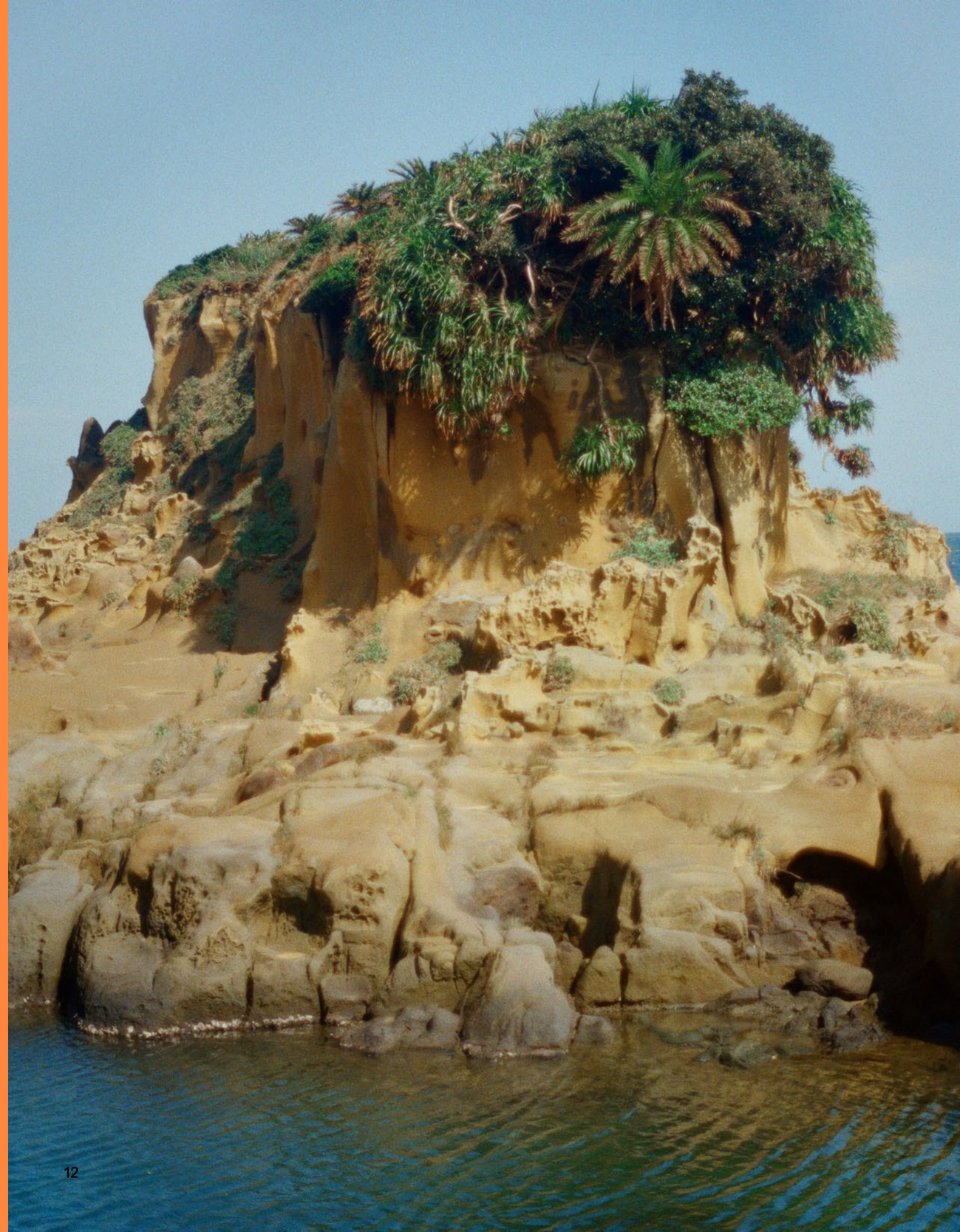
It's fine to start with spend-based estimates. But as you get better reporting, you'll have to retrace your steps to create a more accurate and useful baseline.

Stuff that helped

- *GHG Protocol* - This is the standard you should probably use for all of this stuff, and includes all the details about how scopes are defined, boundaries, etc. Get to know it.
- *HIGG Index* - We've updated our RefScale tools to reference HIGG Index data for our materials and other relevant processes associated with actually making our product
- *Quantis Scope 3 Evaluator* - We've used this tool for initial Scope 3 emission estimates based on spend data
- *The Brand Emissions Estimator (BEE)* - Another estimator tool from our friends at Climate Neutral
- *Anthesis* - We worked with Anthesis to review our greenhouse gas inventory methodology (including our RefScale tool that we have for our products), and ensure it was aligned with GHG Protocol and best practices
- *South Pole* - We worked with South Pole consultants on our action roadmap but that meant they also analyzed our baseline and gave us really helpful recommendations on how to improve data quality.
- *Clean Agency* - We've worked with Clean consultants on creating and validating our RefScale tools over the years
- *SBC* - We've worked with SBC consultants to verify our greenhouse gas inventory each year

Set targets

Target setting and having a clear reduction goal is critical to actually doing the work. Climate action is a long-term endeavor, so targets give you a measuring stick to report progress against each year and ensure you're on track. You'll probably want your target to be science-based, because we're all in this mess together, and we can make more progress by having a common, data-backed goal versus individually trying to "do better" or be "less bad".



Basic steps

If you decide to go through a formal SBT process, it's all administered by the SBTi, a partnership between non-profit group CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). They have all the requirements and process outlined on their site, but basically you need to:

1.

Submit a commitment letter to a science-based target (either 1.5C or 2C) directly through the SBTi.

2.

Work on an emissions reduction target in line with the SBTi's criteria

3.

Submit your target to the SBTi for official validation (cost is typically ~$5K)

4.

Report company-wide emissions and track your target progress annually

We're not even going to get into all the fine print and different criteria because SBTi can do it a lot better. But we do want to note one important thing:

• An absolute target refers to a target that aims to reduce GHG emissions by the same percentage each year (AKA a linear reduction). For any company, an absolute target means a linear reduction of at least 4.2% annually to keep global temps from increasing over 1.5°C.

• An intensity target is a normalized metric that sets a company's emissions targets relative to some sort of economic or physical output. That output can be anything from pairs of shoes produced to total revenue. This allows a business to set emissions reduction targets while accounting for growth.

Per the SBTi, a company can mix and match which type of targets they want to set across their inventory, so long as they are in line with the science to reduce global emissions by a minimum of 2°C.

What we learned

We're a committed company aligned to a 1.5°C pathway. We're on step 3 above, so we don't have the final validation done yet. But here are our draft targets:

Reduce Scope 1 & 2 emissions 46% by 2030 (absolute)

Reduce Scope 3 emissions 55% per unit revenue by 2030 (economic intensity)

Both are based on the 2019 baseline above.

The target setting verification process through SBTi may not be the right fit for all businesses, especially small to medium sized brands. We aren't saying not to do it, or to set a totally arbitrary target. But if you set a less official target that is still in line with the science, we wouldn't fault you for it. Here are some other multi-stakeholder groups that you might align your goals with: Textile Exchange, the Sustainable Apparel Coalition, or the Fashion Industry Charter for Climate Action.

Our advice will always be the same: pick a target--obviously the more ambitious the better--be super clear about how you are defining it and what standard you are following, and then move on to actually doing something about it.

Stuff that helped

• *SBTi guide* for the apparel sector so you can really get into the SBT details.
• *South Pole* - As part of our work with South Pole, they helped review our baseline and action potential (more on that in the next section) to help inform the right level of ambition that was both challenging and achievable given our high-growth business. They are also really familiar with SBTi criteria and can help translate that for you if it feels overwhelming.
• *Claremont Sustainability Consulting (CSC)* - We worked with a group of student consultants to review our baseline and prepare our draft SBTs. We love working with future leaders and giving them real-life learning experiences so we encourage you to connect with local colleges and universities for support if you have projects like this.

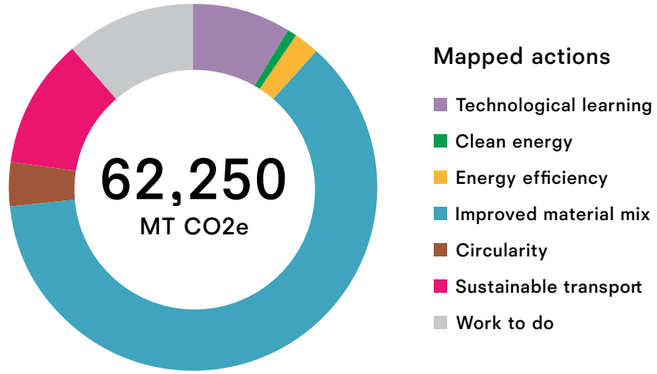
Our climate positive roadmap

Okay, so how do you get from your baseline to Climate Positive? You may want to enlist help. We brought in a team of consultants from South Pole to help us understand how to reach our target. We looked at the hotspots in our inventory and identified the best actions we could take to hit our reduction targets. Our focus areas are: better materials, circularity, transportation, and energy management.

And we're almost there in each area. Based on the reduction efforts we identified and modeled so far, we have a decarbonization roadmap aligned to a 1.5°C pathway with only a small gap (~7K mt) to close before 2025. And since we overestimated our emissions based on our spend methodology, we feel really confident that we can meet or beat our commitment if we can do the work outlined here.

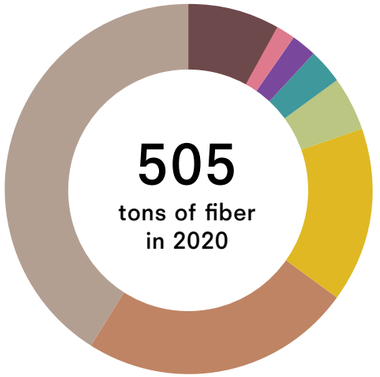
Here's a deeper look into each, and what exactly we plan to do between now and 2025 to hit our targets.

Total emission reductions needed by 2025

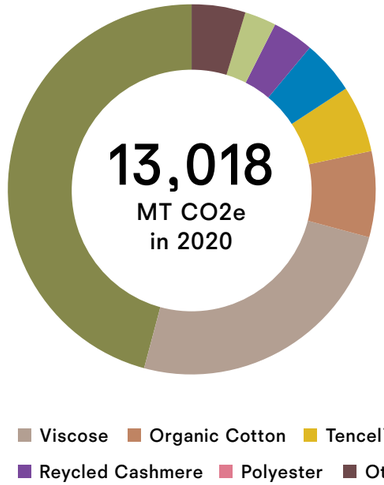


Better materials

Chances are, your raw materials will be the best place to start in identifying carbon reduction opportunities. Our greatest emission reduction opportunities are cashmere, leather, and viscose. Even though cashmere represents less than 1% of our volume purchased, it accounts for almost half of our footprint due to its high carbon intensity. Pretty expensive sweater.



Volume of materials purchased

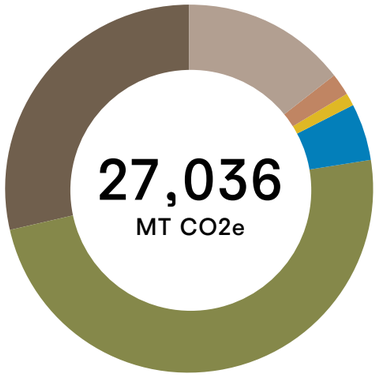


Carbon emissions from materials

Viscose · Organic Cotton · Tencel™ Lyocell · Linen · Modal · Reycled Cashmere · Polyester · Other fibers · Cashmere · Silk

Note: This is based on our RefScale tool which primarily uses HIGG MSI emission factors for materials. The emission factor for cashmere is much higher than other fibres and that further research into this could be helpful for the industry.

Total emission reductions needed by 2025



Mapped actions

- Viscose replacements
- Organic cotton replacements
- TENCEL™ Lyocell replacements
- Silk replacements
- Cashmere replacements
- Leather replacements

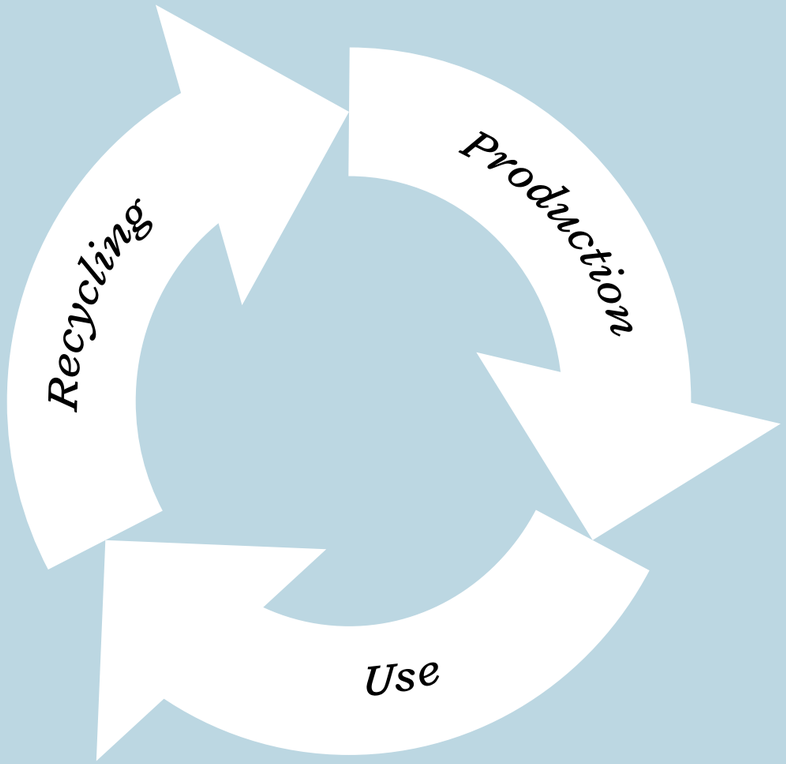
Changing our materials mix won't be easy, and there are some serious cost implications associated with these changes. There is limited availability and commercial scalability to many innovative fibers, which also creates quite a bit of uncertainty. But eliminating silk and conventional cashmere sourcing in the next year are some things we can do right away that will make a big difference.

Today	→	2025
Virgin & recycled cashmere	*Virgin cashmere phased out completely*	~85% recycled content ~15% regenerative wool
Viscose	*Generic viscose phased out completely*	100%+ next gen viscose
Organic cotton	*Likely remains a key material*	~15%–20% recycled cotton ~10% regenerative cotton
Tencel™ Lyocell	*Likely remains a key material*	Next gen options to be further assessed
Silk	*Silk phased out completely*	100% next gen or alternatives

What we learned

Understand the impacts of your raw materials and take steps to replace or eliminate the really carbon intensive ones from your product mix. It can be rough, but we'll probably live without silk.

Circularity



Circular practices can be another great way to reduce your emissions. Circularity aims to eliminate waste and design products that regenerate natural systems and keep materials in use.

Currently, there is no standard to quantify carbon reductions associated with circular practices such as reuse, repair, and recycling. And that's okay. While pursuing circularity may be tricky to measure and may not give us the immediate results material changes do, it does contribute to lower demand, and thus lower CO2e, for materials. We found that if we expanded our existing fabric scrap upcycling and resale programs, we could see between ~11-23% total reduction potential in our materials footprint.

What we learned

Don't let accounting get in the way of a good thing. Keep pushing for circularity outside of your climate commitments, and do a little bit of work to quantify these efforts for it here too if you can.

Stuff that helped

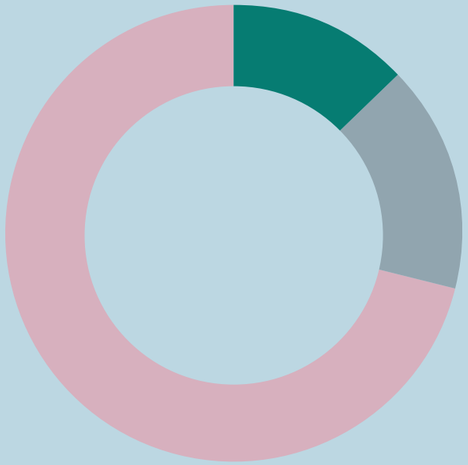
- *Sustainable Apparel Coalition* and *HIGG Co tools* - The SAC is a global, multi-stakeholder non-profit alliance for the fashion industry. The Coalition develops the Higg Index, a suite of tools that standardizes value chain sustainability measurements for all industry participants. We use these tools to measure environmental and social labor impacts across the value chain.
- *Marimole* - Is our fabric scrap recycling partner for our own Factory. We are looking to expand their services to our partner factories, and identify similar providers regionally for our manufacturing partners.
- *thredUP* - We use thredUP's resale as a service offering, and have a standing partnership to promote resale of clothes through custom "Clean Out Kits" and via a thredUP x Reformation portal.

Transportation

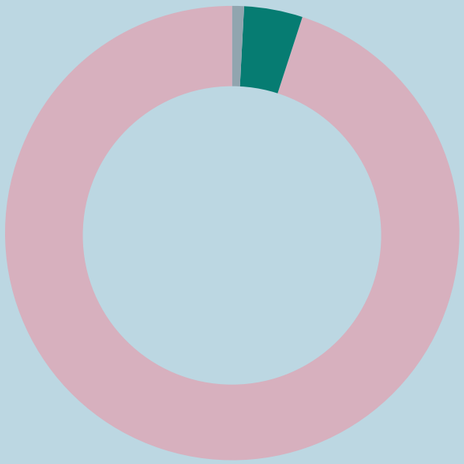
It takes a lot of fuel to transport our raw materials to our factories and even more to ship our finished goods to our warehouse, retailers, and customers. We predominantly use air shipping which allows us to be nimble and reactive to the market. It also benefits our customers who have speedy delivery expectations. But shipping via air is 30x more carbon intensive than shipping via cargo ship. It's unlikely that improvements in clean or more efficient fuels will result in the emissions reductions necessary to curb global warming by 1.5°C.

Transportation baseline

Ton-Mile shipped by mode

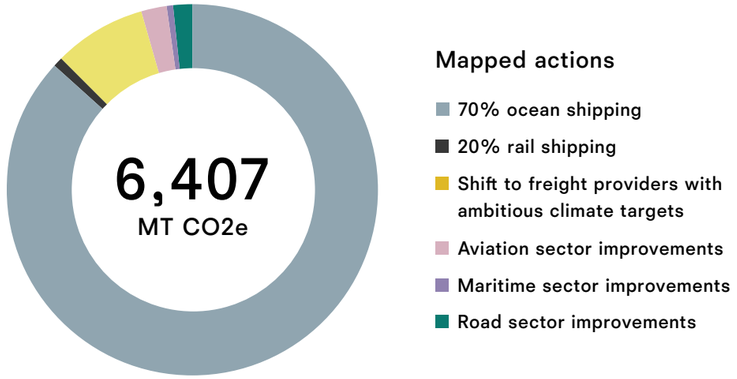


CO2 emissions by mode



Air Ocean Road

Total emission reductions needed by 2025



So, in order to hit our target, we'll need to shift as much of our shipping mode to ocean or ground transport as possible. If we don't account for the other reduction opportunities we're taking, the numbers say we need to get to a 70% ocean / 30% air split. This will impact our production planning, inventory management, and delivery times in a big way. We'll be putting together an internal cross functional team to determine how we can balance the business needs for flexibility, quality, and sustainability.

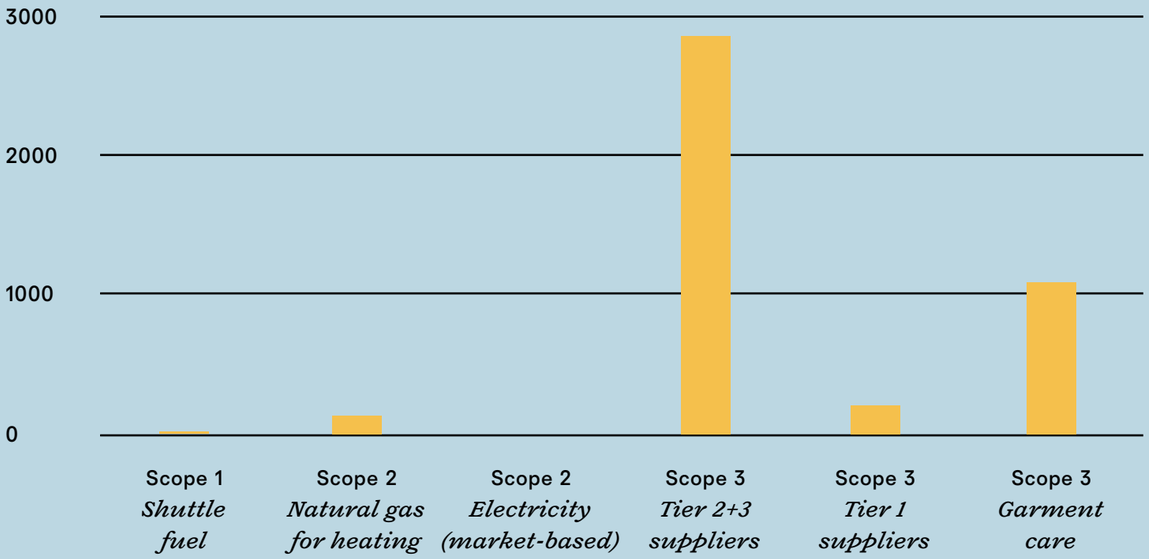
What we learned

Transportation improvements are crucial for us all to stay below our global carbon budget. Focus on shifting as much as possible—know that change will take time and creativity. For instance, our business is really focused on short lead-times. So we're looking for other places in the product life cycle where we can improve lead-time to help compensate for longer transit times. Also, we're looking for specific product categories or collections that we can plan on a different calendar. If you're like us, you can identify the first 15-20% mode shift quickly. And it's a total win-win because ocean freight is a lot less expensive and variable than air right now.

Energy management

Approaching energy management will vary depending on the primary activities of your business. It's important to understand what can be done so that you may help facilitate or influence reduction plans within your supply chain. Our scope 1 and 2 emissions are relatively small compared to our more energy intensive stuff in our scope 3, like our mills, dye houses, and yarn producers.

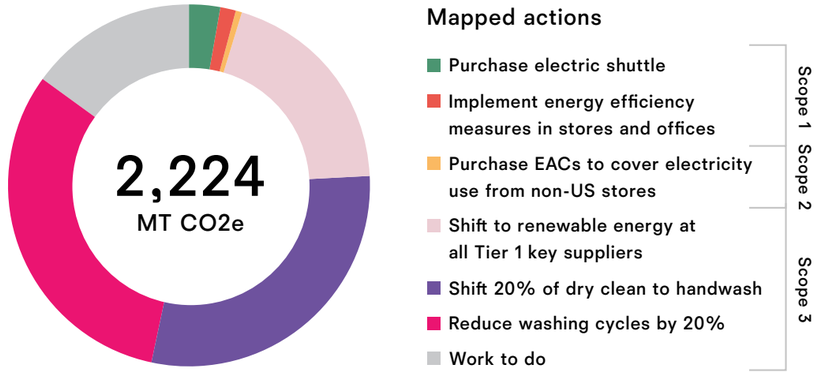
mt CO2e in 2019



Note: Emission source Tier 2+3 suppliers is the only category based on average secondary data (Higg MSI), thus subject to high uncertainty

But we still need to reduce Scopes 1 and 2 emissions by 46% in order to hit our targets. Our electricity emissions are virtually zero, because we purchase Renewable Energy Credits (or RECs) that offset the electricity we use within our operations. Our biggest challenge will be reducing our natural gas consumption as much as possible. We'll start by conducting energy audits to get a better picture of how and when we are using our energy. This is something you can either outsource or do internally. With more detailed data, we can implement focused solutions depending on what we discover. Some examples may include automating lighting and HVAC systems to run only during working hours and within reasonable temperatures. While we may not be able to control the source of energy, we can control how we use it.

Total emission reductions needed by 2025



Working closely with our supply chain will be key to driving reductions throughout it.

Scope 3 energy: Key interventions

1.

Start by getting to know the current position of your suppliers and establish a data collection process around energy usage.

2.

Map renewable energy opportunities in key markets (i.e. for our specific supply chain that is China & USA)

3.

Offer market specific renewable energy webinars, workshops, and technical assistance to increase capacity and knowledge of suppliers

4.

Incentivize renewable energy with existing tools & platforms

How our customers wash and care for their garments can also be energy intensive, due to hot water cycles and dry cleaning. Our shift to better materials will reduce the need for professional cleaning services and allow for hand-washing with cold water. We'll also need to educate and engage our consumers so that they are empowered to make positive changes when buying and caring for their clothing. This is another instance where accounting for your reduction efforts will be difficult since visibility and control is limited.

What we learned

Energy management is complex, but there are a ton of resources available. Start within your own four walls, extend lessons learned to supply chain partners, and educate your customers along the way.

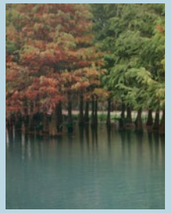
Stuff that helped

- *Arcadia Power* - we partnered with Arcadia Power to provide our customers with an easy way to power their homes with 100% wind energy. As an added bonus, all participants receive a gift card towards Ref clothing.
- *3Degrees* - helps organizations around the world achieve renewable energy and decarbonization goals.
- *South Pole* - not only does South Pole have an incredible team of consultants, they can also help you with navigating renewable energy strategies, climate neutral applications, and carbon credits.
- *Fashion Industry Charter for Climate Action* - A collaboration with the United Nations and fashion stakeholders, this sets forth a decarbonization pathway for the fashion industry drawing on methodologies from the Science-Based Targets Initiative. The Charter has published really helpful and detailed playbooks including energy management resources.

Offsetting

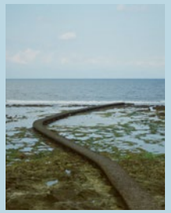
A carbon offset broadly refers to the reduction, avoidance, or removal of greenhouse gas emissions. Carbon offsets invest in projects that help counteract greenhouse gas emissions that have already taken place. In order to align with emerging Net Zero and Climate Positive standards, we need to invest in 100% removal projects by 2025. Removal projects can be either natural or technological.

Natural



Afforestation/ Reforestation (AR)

Tree growth takes up CO2 from the atmosphere



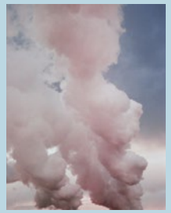
Other land-use/ wetlands

Restoration and construction of high carbon density, anaerobic ecosystems

Technological

Enhanced weathering

Natural minerals react with CO2 and bind them in new minerals



Direct air capture

CO2 is removed from ambient air and stored underground

←
Less costly
Closer to deployment
More vulnerable to reversal

→
More costly
Greater R&D needs
Less vulnerable to reversal

Basic steps

Once you have your baseline to inform the quantity you'll need to offset, purchasing offsets is mostly transactional. But, like any other major purchase in your business, you want to find the right partner, vet the product, and build a long-term relationship.

1.

Do a simple quotation process with 3-5 service providers. Specify the project type (e.g. removals only), and anything specific to your business need or storytelling -- like geographic location, activity-type, etc.

2.

Review the proposed projects against your specs. All providers we've worked with can deliver Gold Standard certified projects or the equivalent, but don't assume anything and check the certifications.

3.

Assess the cost and total budget implications across the different projects and build a portfolio that works for you.

4.

Purchase the offsets as a single transaction, or consider longer-term agreements if possible to help the projects plan better and lock in pricing.

What we learned

The cost of removal projects is much higher than other offset types (on average $6/mt for reduction/avoidance vs. $15/mt for removal right now, and prices are expected to increase with demand in at least the short-term). So, it's a great way to really motivate us as a business to meet our reduction targets.

We will focus on natural removals since they are more mature and less expensive than tech solutions. We'll also be shifting from year-long agreements to a multi-year format, and earlier-stage investments including self-developed projects to help hedge against major price swings.

Stuff that helped

• ***Native*** - our current offset provider and a great partner to think through your portfolio, including the opportunity to create projects specific to your supply chain.
• ***South Pole*** - in addition to the incredible consulting support we received from them, they also are an offset and EAC service provider.

Reporting, transparency, & collaboration

We're committed to transparency and accountability, so it's important that you know exactly where we're at and what we're planning to do between now and 2025 to become Climate Positive. We'll report our progress here and in our Sustainability Reports.

But, at the end of the day, it's not about what we do on our own, but how we work together. We believe climate change is the most pressing issue facing all people and the planet, and it'll take all of us to solve it. We can't wait for the data to be perfect, or even for next year's budget review. That's why we created this simplified guide to give you a place to start if you can't afford consultants or an in-house team. We're in this together, so If you have other questions along the way, we're here to help. We also want to hear your suggestions and things you've found to help.Reach out to us at sustainability@thereformation.com.

Stuff that helped

We are not the only fashion brand working on climate action, and there are other really incredible resources out there (many of which we've tried to include in this guide). Check out Fashion Industry Charter from *Climate Action Climate Playbook* too if you want to go even deeper into each of these topics.

Reformation