



Measure, reduce and report on your business' carbon footprint

About these guides

These practical guides explain important sustainability topics for businesses. Share them with the people in your organisation who are working together to meet your environmental, social and governance goals.

Serious about a low-carbon future? Measure your organisation's carbon footprint, make a plan to reduce it and report your progress. (What gets measured gets managed!)



Guiding principle: Whakapapa

Measuring your organisation's carbon footprint feeds into the whakapapa of your business. It helps you and your team consider the long term and plan the impact your organisation will have on generations to come. Carbon footprinting is a far more powerful tool than you might at first think it is.

Understanding your organisation's carbon footprint

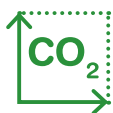
Your carbon footprint is the sum of the greenhouse gas emissions (GHGs) created in your organisation and your wider value chain to produce and support your products or services. A carbon footprint covers a period of time, such as a financial year.

'Carbon' is shorthand for the many greenhouse gases that cause climate change, including carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). We express the total footprint as carbon

dioxide equivalents (CO₂e). CO₂e converts the greenhouse effect of each gas into the amount of carbon dioxide that would cause the same effect. For example, the impact of 1kg of methane (CH₄) is 25 times as high as the impact of 1kg of carbon dioxide. This means methane's impact is expressed as 25kg CO₂e.



Why do I need to measure, reduce and report my organisation's carbon footprint?



Measuring your carbon footprint provides the information your business needs to understand your carbon 'hotspots' (the activities that release the most carbon).



Reducing your carbon footprint starts with tackling these hotspots.



Reporting your carbon footprint helps you enlist stakeholders' support and communicate your progress. (Reducing emissions is a team sport!) It also helps you produce climate-related and other disclosures.

Many people will be interested in your carbon footprint. They include your wholesale and retail customers, investors, regulators, suppliers, community and employees.

How your business will benefit

Business opportunities	Business results
<ul style="list-style-type: none"> Identify and report your risks (climate, financial, regulatory) Reduce environmental impacts, including greenhouse gas emissions and waste Reset your strategy (how you offer value in a low-carbon economy) Stand out from competitors Improve relationships with customers and suppliers Build your brand value and reputation 	<ul style="list-style-type: none"> Lower risks and costs A more resilient organisation Comply with regulations Stronger relationships Investor confidence Engaged employees Market share Social licence

How the communities you operate within will benefit

Common law causes of action in public nuisance are currently confirming the links between organisations that generate significant emissions and the impacts they have on marginalised communities. The outcomes could set a [legal precedent](#) for how we manage carbon emissions in Aotearoa.

Getting on the front foot and measuring, reducing and reporting your carbon emissions will protect your organisation from legal risks like these. It will also show how your organisation cares for the communities it operates within.

How do I measure my organisation's carbon footprint?



Step one: confirm your 'project boundaries'

Common boundaries include:

- › operational control – you account for emissions from everything you (or your subsidiary) have full control over
- › equity share – you account for emissions from your share of ownership (e.g. if you own 10% of a factory, your footprint includes 10% of the factory's emissions).



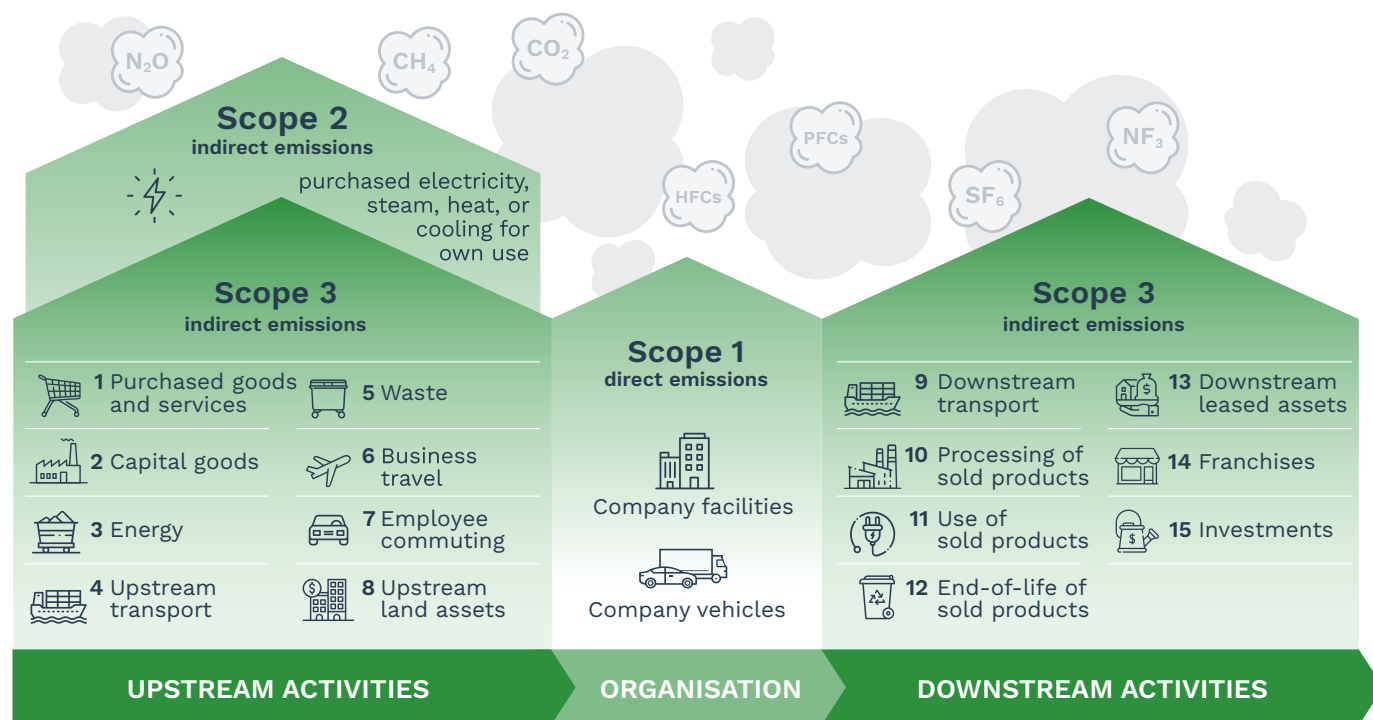
Step two: choose your standard

There are two standards for measuring and reporting carbon emissions. They are:

- › the international Greenhouse Gas Protocol (must be used if you want to set a science-based target)
- › ISO 14064-1:2018.

The GHG Protocol splits carbon into three groups (scopes).

	Scope 1 emissions	Scope 2 emissions	Scope 3 emissions
Nature	Direct emissions	Indirect emissions	Indirect emissions
Source	Day-to-day activities like fuelling your vehicle fleet with diesel	The electricity you buy to run your office or factory and the heat, steam and cooling you buy	Activities in your value chain. There are 15 categories of scope 3 emissions (below). They may be your biggest source of emissions but they're often 'hidden'.



Credit: thinkstep-anz

Step three: measure your emissions, scope by scope

CO₂e Measuring your scope 1 and 2 emissions is relatively simple

You'll need two pieces of data.

- Your activities.** Calculate the volume of emissions your activities create. For example, how many kilowatt hours of electricity powered your plant last year? You'll find much of this information in your monthly utility bills.
- Your emission factors.** An emission factor represents the amount of GHG an activity releases. For example, in New Zealand, the emission factor for one litre of diesel combusted for transport is 2.68kg of CO₂e. This means it emits this amount of GHGs. The Ministry for the Environment (MfE) provides generic emission factors, workbooks and guides.

Then do the maths. **Units of activity x emission factor per unit = CO₂e released.**

Measuring your scope 3 emissions means working with others

Scope 3 emissions are harder to measure. You'll need help from your employees, suppliers and maybe even your customers.

These conversations have added benefits: you're likely to identify opportunities to work together to reduce everyone's emissions. For example, your scope 3 emissions are your suppliers' scope 1 and 2 emissions. When they reduce their scope 1 and 2 emissions, you reduce your scope 3 emissions.

Start by screening your emissions



You're looking for the sources of carbon that are most relevant to your business. These sources are relevant for most businesses:

<p>Category 1 (the goods and services you buy)</p>	<p>Category 3 (the upstream and downstream impacts of the energy you consume)</p>	<p>Category 5 (the waste you generate)</p>	<p>Category 6 (your employees' business travel)</p>	<p>Category 7 (emissions from your employees' commuting)</p>
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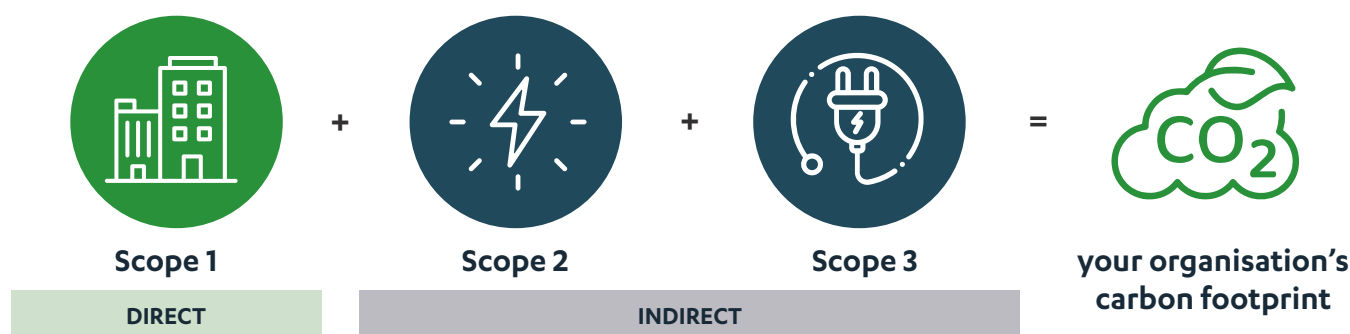
Other sources will depend on the type of business you run.

Then work with your stakeholders to measure your scope 3 emissions

This is where those conversations come in. Here's an example for a manufacturer.

To estimate these emissions	Who to talk with	Business results	Your calculation
 Category 4 (upstream transport)	Your suppliers	<p>How much fuel do you use each year to transport your products to my factory?</p> <p>What type of truck is used to transport the material?</p>	<p>Litres of fuel used (travel from supplier to factory) x emission factor per unit = CO₂e released</p> <p>Calculate the kilometres travelled and apply an emission factor per km</p>
 Category 11 (using sold products)	Your sales and operations teams	<p>How many units of product A have we sold this year?</p> <p>How many times does a customer use product A over its lifetime?</p> <p>How much energy do they need each time they use product A?*</p>	<p>Kilowatt hours (kwh) of electricity per use x lifetime use x units sold during year x emission factor per kwh = CO₂e released</p>

* Why does this matter? Yes, it's your customers' electricity. But you can design product A to help them use it more efficiently.



Free self-assessments, calculators and resources

- To calculate your emissions and identify areas of action: [SBN Climate Action Toolbox](#)
- To screen your Scope 3 emissions: [thinkstep-anz Scope 3 Explorer](#)
- To match your emissions to data for your spending: [thinkstep-anz Spend-based Emission Factors](#)

How do I set a plan to reduce my organisation’s carbon footprint?

Congratulations! You’ve measured your carbon footprint. Now it’s time to create your Emissions Reduction Plan (ERP).

Setting your plan

1. Confirm your baseline (where you are now)
2. Set your targets. These should be science-based and SMART: specific, measurable, achievable, relevant and time-bound. Here’s an example: *We will reduce our scope 1 and 2 emissions by 10% each year from our 2021 baseline.*

Acting on your plan

Reducing emissions takes time. It’s about thinking differently. What can you change? Who do you need to work with? Here are some examples:

Area	Can you:
Energy	<ul style="list-style-type: none"> • Move your vehicles from fossil fuels and go electric? • Increase the renewable energy that lights your office?
Products and services	<ul style="list-style-type: none"> • Redesign your product to last longer? • Redesign your product to use energy more efficiently? • Reduce your packaging by packing your product differently? • Reduce the weight of your product to reduce transport emissions?
Suppliers	<ul style="list-style-type: none"> • Source lower-carbon materials? • Work with your suppliers to suggest ways for them to reduce their emissions?
Team	<ul style="list-style-type: none"> • Tie financial rewards to sustainability goals?
Processes	<ul style="list-style-type: none"> • Change your travel policies to reduce travel that uses fossil fuels?

Review your progress against your plan regularly.

A fair and just transition is important

When you consider changing your organisation to reduce your emissions (e.g. changing the products you provide or the suppliers you buy from), remember that a fair and just transition is important. Your employees, customers and suppliers may currently rely on that product or on income from your business. Reducing your footprint matters, but ensuring people are not left behind matters too.

For example, some rural communities rely on gas because power outages are common. If you sell gas, how can you support these customers to transition to a renewable source of energy while ensuring that they continue to have a reliable source of heat for cooking?

The whakapapa principle is about acknowledging the past and preparing for the future. By working on your emissions profile you are recognising what has worked for your organisation until now, and considering what your legacy will be like for the future.

How do I report my organisation's carbon footprint?

Many businesses must now disclose their carbon footprints annually in climate-related disclosures or an annual report. Others will choose to disclose them. If you use a framework such as Integrated Reporting (<IR>) or the Global Reporting Initiative (GRI), rules govern how you disclose your information.

However you report:

1. Report openly and regularly (at least annually)
2. Explain your methodology (e.g. the standard you're using, how you source your data)
3. Show your baselines, targets and progress
4. Update your internal stakeholders as well as your external ones
5. Use simple, concise language, strong design features such as infographics and case studies to get your message across
6. Give context (e.g. compare your emissions with a concept people understand, such as the annual emissions of New Zealand's fleet of light vehicles)
7. Talk about what you've learned and what you'll do next
8. If you've fallen behind, show that you understand why and have plans in place to bridge the gap.

A roadmap to bring it all together

Make a plan to keep making progress.

Getting started	Making progress	Leading the way
<ol style="list-style-type: none"> 1. Measure your footprint 2. Reduce your scope 1 and 2 emissions 3. Report your progress 	<ol style="list-style-type: none"> 1. Tackle your scope 3 emissions 2. Engage your supply chain 3. Report your progress 	<ol style="list-style-type: none"> 1. Set a science-based target 2. Keep reducing your emissions 3. Report how climate change affects your business (TCFD)

Looking ahead

Companies will move away from using industry averages for emission factors and engage with suppliers to confirm emission factors that are specific to them. The benefit: more accurate baselines and more meaningful reductions in emissions.

About us

The **Sustainable Business Council (SBC)** is a CEO-led membership organisation that mobilises over 130 ambitious businesses to build a thriving and sustainable future for all.

thinkstep-anz is an independent trans-Tasman sustainability firm. We offer a full range of sustainability services and specialise in plain English sustainability communications and design. thinkstep-anz's sustainability communicators have written this guide.

Kaitiaki Collective promotes transformational thinking through sustainability, environmental and stakeholder engagement. We reflect whakaaro me mātauranga Māori in everything we do.

More information

You'll find the other guides in this series here: [sb.org.nz/sustainability-toolkit](https://www.sbc.org.nz/sustainability-toolkit)

Thanks to the member organisations who supported this work: Chapman Tripp, KiwiRail, Plant & Food Research, SkyCity, Tourism Industry Aotearoa (TIA), Westpac, WSP.