

# Calculate and Lower your Carbon Emissions





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A carbon footprint is an estimate of the total output of greenhouse gas (GHG) emissions caused by an organisation, event, product or person.

Calculating your carbon footprint helps set a baseline. Following this up with annual measurements provides you with a consistent and accurate picture across your business. Understanding your carbon footprint will help you understand the activities that result in carbon emissions and then take action to reduce them. As well as helping the environment, managing your carbon emissions can help you save money, cut reputational risk and create new business opportunities.



## Are greenhouse gases and carbon the same thing?

GHGs trap heat in the atmosphere and contribute to climate change. Carbon is often used as a catch-all term for all greenhouse gases. This is because

carbon dioxide is the main GHG arising from human activities (primarily from burning fossil fuels). But, other gases may contribute to your organisation's carbon footprint.

## Where do I start?

There are range of options for measuring the carbon footprint of your business, depending on your needs.

The free [Annual Carbon Emission \(ACE\) calculator](#) is a good entry level tool. There are many other, more comprehensive carbon calculators available for a fee, or at no cost. Most of these calculators are based on international standards for organisational GHG/carbon footprinting.

If you want your carbon footprint to be verified, organisations like [Toitū Envirocare](#) and [Ekos](#) offer independent certification. An independently verified carbon footprint is an essential pre-requisite to consider becoming 'carbon neutral' through the purchase of certified carbon credits.

### How do I measure the carbon footprint of my business using the ACE tool?

The ACE tool is an easy-to-use Excel workbook with various measurement options to fit in with the way you currently collect your data. The calculator will compile your results.

It includes:

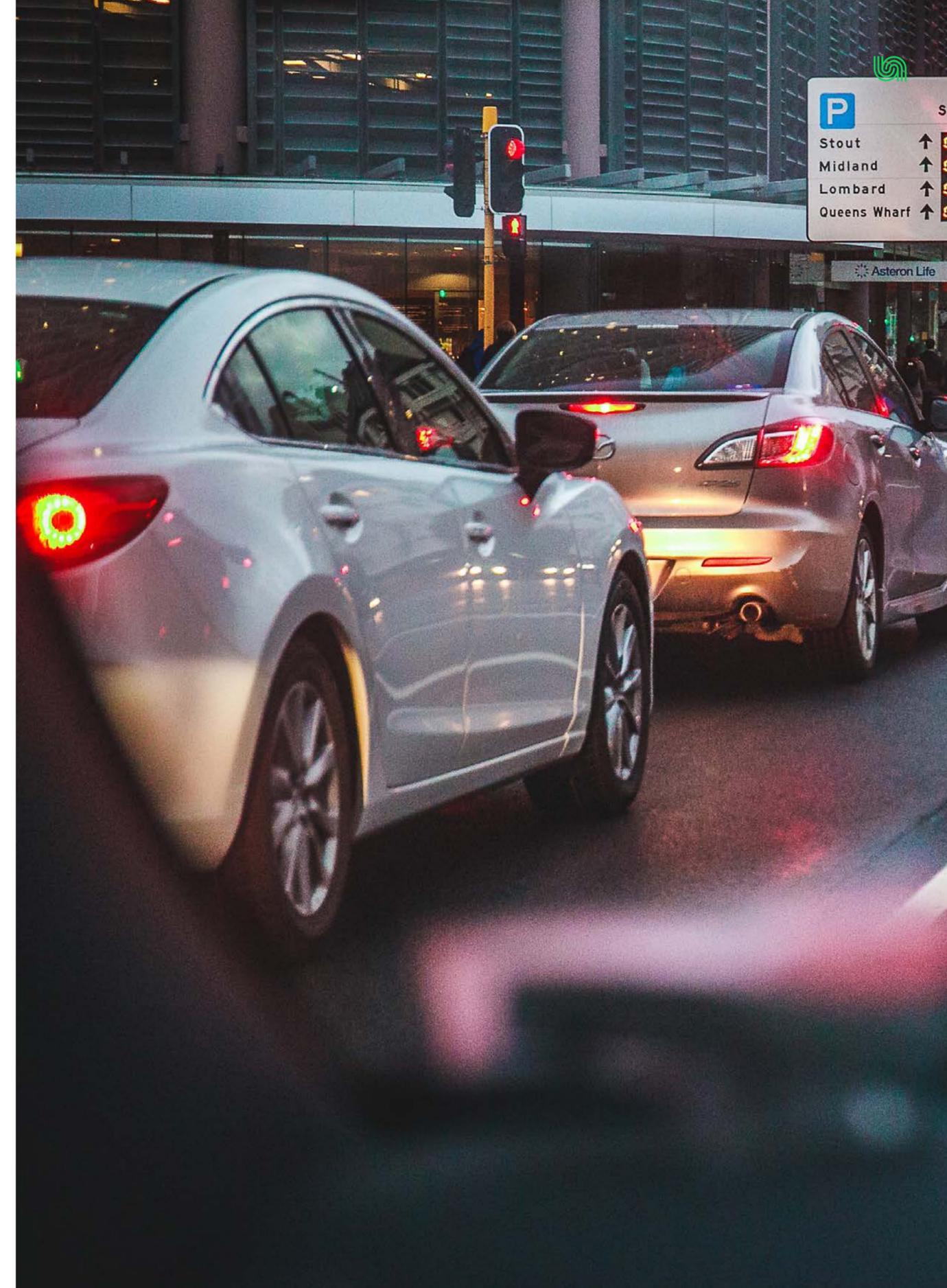
- **Monthly sheets for you to input your activity data.**
- **Automatically populated graphs of cumulative annual emissions.**

To keep track of your carbon emissions, simply input data on waste, stationary energy use, vehicle energy use, refrigerant loss (if applicable) and travel (including by plane and taxi).

The provided charts have pre-set destinations for air and road transport that help estimate distance travelled.

Standard (NZ Government) emissions factors are used to convert activity data to emissions, meaning most emissions factors incorporate non-CO2 gases. These units are given in CO2 equivalent (CO2e).

For additional help on using the ACE tool contact the [Sustainable Business Network](#), or the developers at [Catalyst](#).





## I've calculated my carbon footprint, what next?

### Step 1: Learn about your emissions profile

You now have baseline figures for your typical emissions over a year. You will also have a better understanding of your current emissions profile which will show you the hotspots or main sources of your emissions.

### Step 2: Identify areas for reducing emissions

Establish where you can have the biggest impact on reducing your emissions. For example, could you reduce your use of air travel and/or increase your use of online meetings? We recommend you produce a simple action plan outlining the steps you intend to take. It is always good practice to involve your staff and potentially other key stakeholders in this work.

### Step 3: Set reduction targets

This will give you clear goals to work towards, so you can see if you are on track. Setting targets for the short-term (say three years) and longer-term (five - ten years) are recommended. The two main types of targets are: total emissions (referred to as an 'absolute' target) and emissions per unit of business activity, e.g. per full-time staff member (FTE) or per dollar of income (referred to as a 'relative' target). Ideally, you will include both.

Setting a 'science-based target' is becoming popular. This is a target aligned with staying within the 1.5° or 2° degree global warming target. The Science-Based Targets [initiative](#) provides a framework for setting such a target.

### Step 4: Verification and Certification

As there are so many different things you could potentially measure as part } of your carbon footprint, getting your carbon footprint verified will assess whether or not you're measuring the right things, if the information has been

captured accurately, and help to identify how you can reduce emissions.

Some verification processes come with certifications from New Zealand organisations including [Toitū Envirocare](#) and [Ekos](#). These processes are based on the main international standards (ISO:14064-1 and the Greenhouse Gas Protocol). For information on who can provide assurance and verification for your carbon footprint in NZ, check out our [Sustainable Business Directory](#).

### Step 5: Reporting on your emissions and actions

Transparency and openness will help you achieve your goals. It's good to tell customers, employees, suppliers and board members about your emissions, your targets and your progress. You might do this as part of a wider sustainability report. You might include it in internal or annual reports. You might display it on your website and on social media.





# Resources

## The Greenhouse Gas Protocol

The Greenhouse Gas Protocol,  
2015 Revised Edition.

## Ministry for the Environment

Ministry for the Environment  
guidelines on measuring, reporting  
and offsetting greenhouse gas  
emissions.



To find out more  
[sustainable.org.nz](https://sustainable.org.nz)  
[office@sustainable.org.nz](mailto:office@sustainable.org.nz)  
+64 09 826 0394