



# MEASURING AND MANAGING CARBON EMISSIONS

A step-by-step guide for small to medium-sized organisations in Bristol and beyond.



# FOREWORD

Recognising the importance of measuring and reducing carbon emissions is one thing. Understanding how to do it is another matter. Terminology can feel overwhelming and technical details hard to understand. Until now.

We're going to walk you through the words and ways with step-by-step instructions.

This guide was created by Bristol Green Capital Partnership (BGCP), a network of over 1,000 member organisations that are committed to working towards an environmentally sustainable city where everyone can enjoy a high quality of life.

The guide forms part of the Partnership's Climate Action Programme, which aims to help organisations reduce their carbon emissions through a series of events, resources and peer-to-peer learning opportunities.

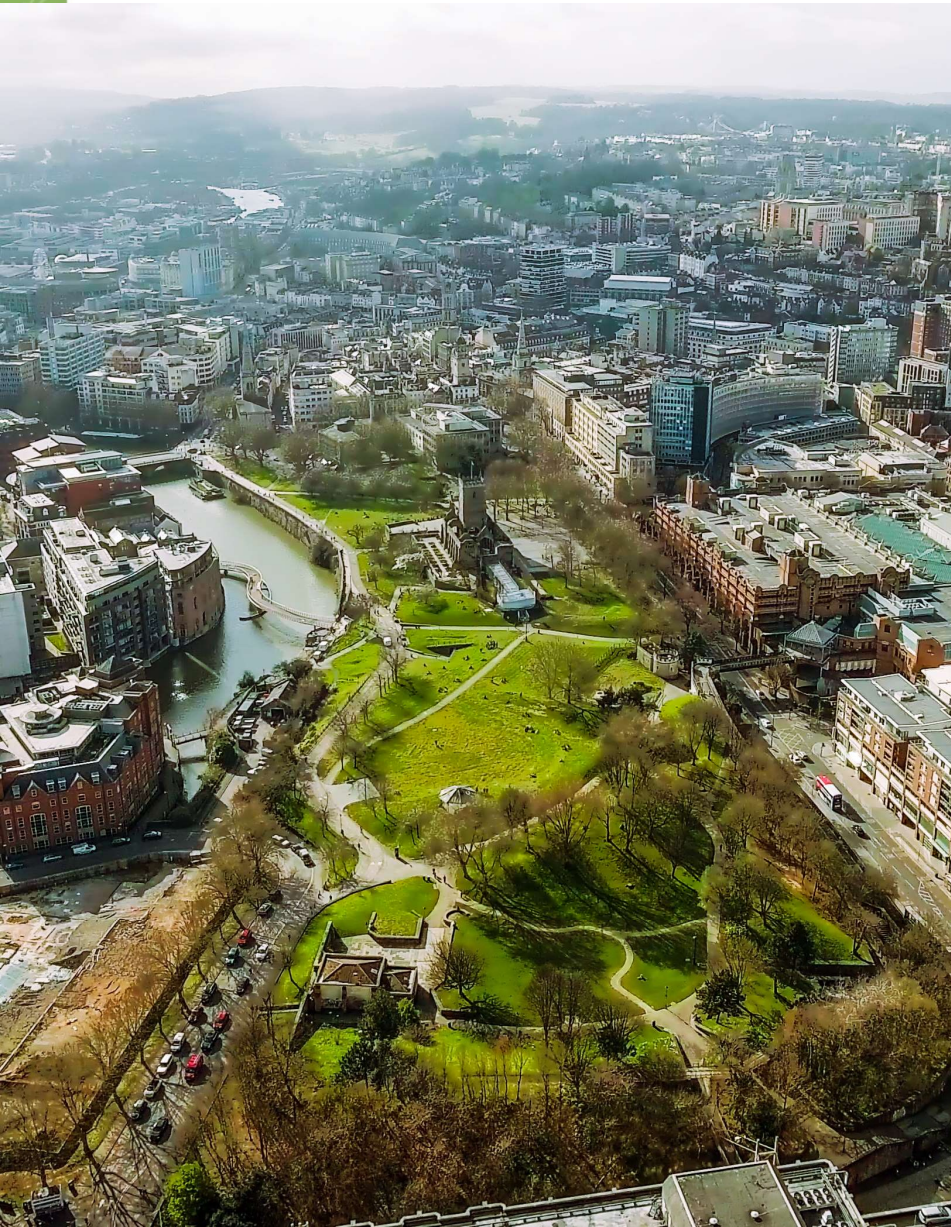
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# THIS IS AN EMERGENCY AND BRISTOL MEANS BUSINESS

## EMISSION IMPOSSIBLE

We are facing a climate emergency. We cannot ignore the science, or the devastating effects beginning to be felt around the world. According to a 2018 IPCC Special Report, we have to act **now** to reduce carbon emissions if we are to avoid the most severe impacts of climate change on our planet and society.

The good news, is organisations of every size can help make a real difference. The climate emergency is being caused by the release of greenhouse gases (GHGs) into the earth's atmosphere, one of the key ones being carbon dioxide. Once an organisation can measure its carbon footprint (the amount of emissions it produces), it can then reduce it too.

Bristol is aiming to lead the way in climate action. It was the first city in the UK to declare a climate and ecological emergency and has set an ambitious goal to be carbon neutral by 2030. To make this happen, we will all need to make changes to the way we live and work.



## MISSION POSSIBLE

Measuring your organisation's carbon footprint means you will be monitoring the levels of greenhouse gas emissions released (also called carbon emissions) through burning fossil fuels in your operations and supply chain. Doing this will benefit your organisation as well as the environment. It means you can:

- identify which areas of your organisation use the most energy,
- realise how your organisation is currently contributing to the climate emergency,
- save money by reducing energy use and switching to more sustainable energy production,
- help ensure your license to operate complies with existing regulations on climate change,
- attract business and new customers looking for socially conscious organisations,
- increase your brand value as you become more socially and environmentally aware.

For more detailed information about how to measure and reduce your organisation's carbon footprint, we recommend referring to [The Carbon Trust's carbon footprinting guide](#) and DEFRA's [Guidance on how to measure and report your greenhouse gas emissions](#)



STEP 1:

# BOUNDARY FOR SUCCESS

## MIND YOUR OWN BUSINESS

Before you can start reporting carbon emissions, it's important to set some boundaries and decide which parts of your organisation to include. Most small to medium-sized organisations control all of their operations, which means your boundary will be your whole business.

## YOU'RE IN CONTROL

The most useful way for smaller organisations to set a boundary is usually the control approach. This means your organisation is accountable for 100% of the emissions from activities that you control, but not for emissions from activities that you don't control (either financially or operationally), but are associated with.

If your organisation structure is a bit more complex, e.g. if it includes partnerships or franchises, the boundary will be more complicated and a different approach may be needed.

For more information about choosing the best approach for your organisation, take a look at pages 8-9 of DEFRA's [Guidance on how to measure and report your greenhouse gas emissions](#)





STEP 2:

# SCOPE FOR THE BEST

## STRAIGHT TO THE SOURCE

Next, it's a good idea to establish which of your organisation's activities are releasing GHGs into the atmosphere. The main ones may include:

- electricity or gas use
- waste disposal and recycling
- business travel
- staff commuting
- emissions from your supply chain

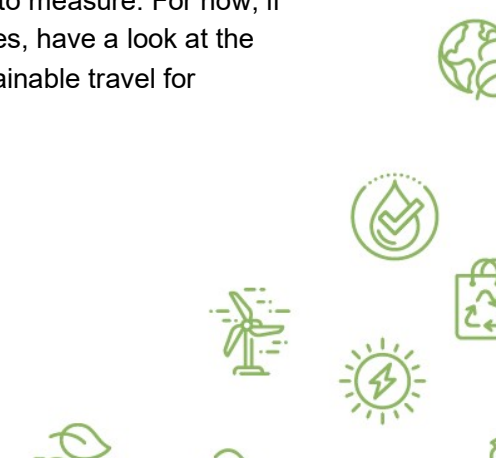
Emissions are categorised into three different scopes. Using these increases transparency and makes targeted changes and improvements easier.

Scope 1: Direct emissions. These are from sources that your organisation owns or controls: e.g. combustion in owned or controlled boilers.

Scope 2: Indirect emissions. These emissions associated with purchased energy: e.g. electricity/gas use.

Scope 3: Other indirect emissions. These emissions are from sources that your organisation doesn't own, but uses e.g. travel, purchased goods and services, financial investments and emissions from customer use of your products.

This guide focuses on measuring Scope 1 and 2 emissions. Scope 3 emissions are an important part of the picture but are also more challenging to measure. For now, if you're looking to make more sustainable purchasing choices, have a look at the [Government Buying Standards](#), and for advice on sustainable travel for businesses, see [TravelWest](#).





STEP 3:

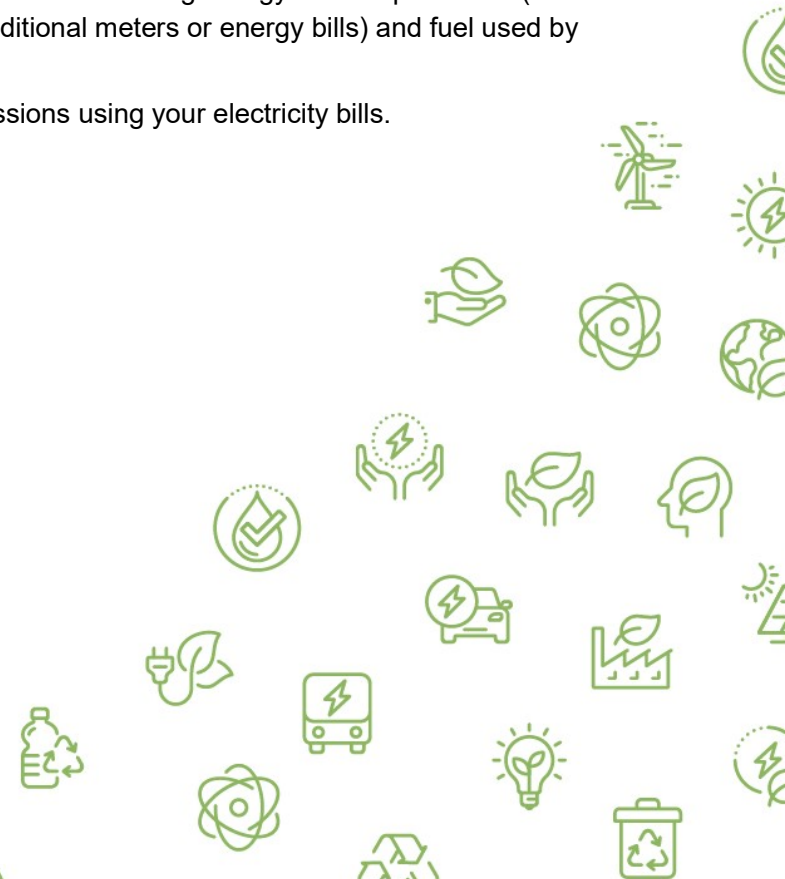
# GET THE MEASURE

## HOW TO COLLECT EMISSIONS DATA

Now you know which of your organisation's activities are releasing GHGs, it's time to collect data for how much carbon each one currently emits. An environmental management system (EMS) is ideal for this, but requires expertise and a lot of time, and isn't always possible for small businesses.

If you don't have an EMS, here's an outline of how to do it yourself. Steps to collect your data include (but aren't necessarily limited to):

1. Choose a 12-month period to collect data on (if reporting for the first time, choose the most recent 12-month period that you have data for).
2. Determine all scope 1 direct emissions using energy consumption data (often displayed on the smart or traditional meters or energy bills) and fuel used by company-owned vehicles.
3. Identify scope 2 indirect emissions using your electricity bills.









STEP 5:

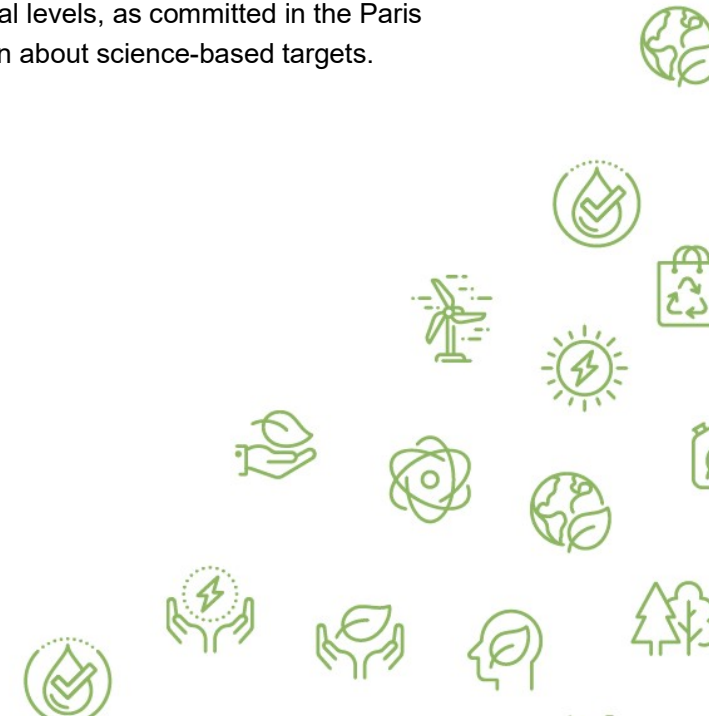
# TARGET SET, GO

## PLAY THE AIM GAME

Now you know what your organisation's carbon footprint is, it's time to set some targets for reducing it. This will help focus action, motivate colleagues and demonstrate progress over time, enabling reporting. The most helpful targets are ones that are:

- Time-bound, ideally within 5 – 10 years
- Realistic – targets should be ambitious, but achievable
- Organised by department or location to help staff understand and own their targets
- Include all the emissions that you have measured
- Can be clearly communicated to staff, customers, partners etc

Some organisations may want to look into setting science-based targets. These are targets that are developed in line with the level of reductions required to keep global warming well-below 2C above pre-industrial levels, as committed in the Paris Agreement. See [here](#) for more information about science-based targets.





STEP 6:

# THE ACTION PLAN

## HOW TO REDUCE CARBON EMISSIONS

Here's the fun bit: turn theory into practice, reduce your organisation's carbon footprint and help Bristol reach its aim to be neutral by 2030. Here are some great ways to reduce your scope 1 and scope 2 emissions.

### NOW



#### 1. Say it loud

Awareness = action. Education is the most important aspect of creating a more sustainable future. Communicate with your staff about everyday actions that use energy and water, and give encouraging advice on how they can adapt what they do to reduce it.



#### 2. Turn hotspots into 'notspots'

Identify areas that produce a high percentage of emissions. First, eliminate unnecessary operations, and then improve efficiency of the power supply or switch to a more sustainable one.



#### 3. Reduce. Reuse. Recycle

The three Rs are a great starting point for an organisation to become more sustainable. Reducing and reusing are the best options, but when they genuinely aren't possible, recycling is the next best option.



STEP 6:

# THE ACTION PLAN



#### 4. See the light

In the UK, lighting is responsible for about 20% of electricity use. Switching to LED lighting, which uses up to 70% less energy, is a quick and easy way to reduce your energy use and costs.



#### 5. Optimise heating and cooling systems

Heating offices and buildings accounts for 25% of the UK's energy demand. To reduce over heating or cooling, implement temperature controls where possible and make sure heating and air conditioning is timed correctly and according to outside air temperatures.



#### 6. Be renew-able

Switching to renewable energy demonstrates demand and supports the growth of a renewable grid.



STEP 6:

# THE ACTION PLAN



## 7. Get certified

Get certified by an accredited body like the Carbon Trust, International Standards Organization or the British Standards Institution. These will help tailor an action plan relevant to the market you operate in.



## 8. Share

When ideas are shared and businesses and organisations unite, progress is faster and easier for everyone. Bristol Green Capital Partnership can help make this happen. If you're not already a member, find out how to join in the conclusion of this guide.

## NEXT



## Increase your scope

Once you've got your scope 1 and 2 emissions sorted, it's time to look at scope 3. Reporting scope 3 emissions will help your business map critical impacts in its value chain and take action to reduce or offset them. Scope 3 emissions are challenging to measure – look out for future guidance from the Partnership on how best to approach this.

How to reduce your carbon footprint

# WORKING TOGETHER FOR BRISTOL'S FUTURE

 [Bristol Green Capital Partnership](#)

 [www.bristolgreencapital.org](http://www.bristolgreencapital.org)

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## FIND OUT MORE

Thank you for using this guide, committing to measuring and reducing your organisation's carbon footprint, and being part of something amazing. We'd love to hear your feedback about the guide, and what other resources would be useful to you. Please get in touch at [contact@bristolgreencapital.org](mailto:contact@bristolgreencapital.org).

This guide is part of Bristol Green Capital Partnership's Climate Action Programme, offering events, communications and resources to help organisations at all stages of their climate action journey reduce their carbon emissions. This also includes the Climate Leaders Group, for those with ambitions to be carbon neutral by 2030. Find out more about the programme [here](#).

If you aren't already one of the Partnership's 1,000+ member organisations and would like to join, please visit [our website](#) to register. You'll be the first to hear about our events, activities and opportunities to get involved and support our work. You'll be in good company.

## ACKNOWLEDGMENTS

A huge thank you to UWE Bristol for their support in producing this guide, especially Daphning Pierre and Nick Shute from the MSc Environmental Management programme – their report was the starting point for making this happen.

## CLIMATE ACTION PROGRAMME SPONSORS:

