

# REDUCING EMISSIONS FROM ENERGY

An accessible guide for small to medium-sized organisations in Bristol and beyond.



Bristol Climate &  
Nature Partnership

# Foreword

Energy is a key component of any organisation's efforts to reduce their emissions. Decarbonising the way we power, light, and heat our buildings and equipment is essential if we are to meet Bristol's net zero target and those set by many organisations.








With rocketing energy costs, the multiple benefits of finding alternative sources of energy and reducing use are clearer than ever.

Bristol Climate & Nature Partnership Partnership has created this guide to help organisations reduce emissions from energy. The Partnership is a network of over 1,200 organisations committed to working together for a fast and fair response to the climate and nature crises.

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.



# Contents

	Time to change	04
	Green energy tariffs	05
	Improving energy efficiency #1	09
	Negotiating with landlords	10
	Improving energy efficiency #2	13
	On-site generation	18
	Support and resources	22



# Time to change

Prioritising cleaner energy sources and identifying ways to reduce usage can bring multiple benefits for organisations, and there has never been a better time to create change. Benefits for acting now include:

- ☰ Climate crisis — organisations decarbonising energy use is a big part of the effort to tackle global warming. Be part of the solution!
- 👤 Financial — finding alternative energy sources and identifying efficiencies can help manage spiralling energy costs.
- \* Engaging senior management — with energy costs high on the agenda, there is an opportunity to engage senior management and board around measures to tackle this.
- ⌚ Support available — there is a lot of information and support for organisations that want to make changes, and this is expected to continue increasing.






# Green energy tariffs



# What is a green tariff?

Changing where your energy comes from is one of the quickest steps for businesses to take in reducing their carbon footprint. However, selecting a green energy tariff is a bit more complex than it may seem.

Tariffs can be labelled as “green” when the energy supplier matches all or some of your units of electricity with energy that has been generated from a verified renewable source such as:

-  Solar
-  Wind
-  Hydroelectric



# But how green are “green tariffs”?

This varies significantly.

Ofgem, the government regulator for gas and electricity markets, issues a certificate to provide a guarantee that an energy source is renewable, called the Renewable Energy Guarantees of Origin (REGOs). These REGOs are passed onto the supplier when they buy green energy, and energy suppliers use REGOs to show customers the renewable content of electricity they’ve supplied.

However, the REGOs can be sold separately from the actual renewable energy. This allows some suppliers to claim they are selling renewable energy when they have actually bought up unwanted REGO certificates and are not supporting additional renewable energy generation.



# The greenest tariffs

The greenest tariffs are those where the supplier buys renewable energy and the REGOs together and directly from the companies that generate it.

These include:

-  GEUK
-  Good Energy
-  Ecotricity

Consider ranking suppliers based on how green their electricity is as part of your tender, giving a higher score to those generating their own renewable energy or that buy directly from companies generating it with accompanying REGOs.

For more information on green energy tariffs, check out our [Spotlight on: Green energy tariffs for businesses.](#)



# Improving energy efficiency #1



# If you don't own or have control in your building

If you don't own your own building, it can seem like an uphill struggle to make the changes needed.

But there are still ways to influence landlords and building managers. The critical moment for this is during the contract negotiations on lease renewal or acceptance.

Some considerations include:

- 🏠 Lease term — longer-term leases may make it easier to include sustainability factors.
- \* Cost share agreements — building in cost-sharing for sustainability improvements.
- 🕒 Efficiency requirements — requiring a minimum level of efficiency for the building.
- 🌿 Utilities transparency — requiring sub-metering and data sharing to enable accurate tracking of emissions.

Useful sources of information:

- 👤 UK Green Building Council (UK GBC)
- 🏠 Clean Energy Buyers Association (CEBA): Commercial Real Estate
- \* Minimum Energy Efficiency Standards (MEES)



# Negotiating with landlords



# Questions for negotiation

During negotiations, some questions you may want to ask landlords and building managers include:

You can find more pointers on working with landlords or business managers in this [Spotlight on article](#).



- ✿ Does the landlord use a 100% renewable electricity supplier or will they allow the tenant to have their own electricity supplier contract with their chosen provider?
- ✿ Is solar or wind generation available to tenants / is the property suitable for solar panels or other generation technologies?
- ✱ Does the property have energy-efficient lights and controls in place — or is the tenant able to install them themselves? Controls should be either daylight or PIR.
- ⌂ Does the property have solar shading on south-facing windows/glazing?
- 💬 Are there building fabric efficiency measures in place — double glazing, effective draught proofing and insulation?
- ⌘ Do tenants have control over the timings of heating / cooling / BMS controls? If not, do tenants have control of the radiator's valves?

# Improving energy efficiency #2



# If you own or have control in your building

If you own your building or have a level of control, there are numerous ways to improve energy efficiency.

## Understand consumption

- 🌱 Data is absolutely crucial for understanding consumption and identifying where to focus improvements.
- 👉 Take monthly meter readings.
- 👤 Half-hourly meter readings and smart meters can help identify particular usage peaks.
- ★ Submit readings to your supplier to ensure bills are based on your actual usage.
- 🕒 Walk around your building to get a better understanding of where and how energy is being used.



# Common areas where efficiency can be improved

- ☂ Lighting — upgrade to more efficient LEDs or add controls (daylight or PIR sensors).
- \* Heating controls — adjust the timing and temperature of the boiler or radiators.
- 🌱 Pipework insulation — insulate exposed piping as a cheap way to reduce heat loss.

- 🔌 Point of use water heater — may have lower energy consumption compared to using the mains as it removes heat loss from pipework.
- 👤 Aerated taps — reduces water flow, low cost or provided for free by water companies.
- \* Solar film on windows — helpful for hot offices to reduce demand for cooling.
- 🕒 Server room cooling — often set too low, closer to 26 degrees is fine.
- 🌿 Equipment — when purchasing ensure fridges/ microwaves/ coffee machines etc are energy efficient.
- 🌀 Fridge use — if you have a busy office and the fridge is opened and closed a lot, consider leaving the milk out for tea.
- 🔌 Turning off lights/equipment — leaving computers and monitors on standby does consume energy.



# Planning

A robust action plan needs to be in place if energy consumption is going to be addressed, with senior leadership buy-in.

Consider a whole-building approach for developing business cases rather than assessing the viability of each individual technology.

This can result in some of the quick-win measures helping to fund the more difficult-to-fund measures.

For information about how to create an engaging Climate Action Plan, see [our guide](#) and [event recording](#) on this topic.



# Engagement

Staff engagement is also critical — many changes and upgrades will require staff to be aware of them and how to use them correctly.

Posters soon get ignored, so think of innovative and regular ways to remind colleagues about minimising usage.

A green team or environmental champions within your organisation can also be a great way to increase engagement and ensure the action plan is carried out.

See this resource for [top tips on engaging employees in climate and nature action.](#)



# On-site generation



# Solar photovoltaics (PV)

Investing in renewable energy generation can provide a source of clean energy and enable organisations to be self-sufficient, offering protection from price increases and supply chain disruptions.

Solar PV is a popular choice for organisations, generating free, green electricity that can be used on-site. Payback is typically 8 — 10 years, but with costs decreasing, this could fall significantly.

There are a number of things to consider before installing Solar PV:

- ☰ Orientation and surroundings – is your building over shadowed / south facing?
- 👤 Energy profile — will the planned system's output meet your energy requirements?
- ✳️ Excess energy – will you want to invest in storage for excess energy generated or use a diverter for converting to heating or hot water?
- 🕒 Roof condition — do you need a feasibility study to make sure it is strong enough and structurally sound?

If you would like to explore Solar PV at your organisation, the first step would be for an engineer or consultant to carry out a feasibility study.



# Heat networks

Heat networks are systems for distributing heat generated in a centralised location via a network of pipes for space and water heating. This typically involves replacing gas boilers with a heat exchanger in existing buildings and connecting to new developments.

They are one of the most cost-effective ways of reducing carbon emissions from heating, and their efficiency and carbon-saving potential increases as they grow and connect to each other.

Bristol City Council is developing or planning heat networks in several areas of the city. This will help businesses and houses in these areas with heat power from more sustainable sources.

[Have a look at this map of current and planned heat network areas](#) and get in touch with the Heat Network team at [heatnetwork@bristol.gov.uk](mailto:heatnetwork@bristol.gov.uk) for more information.



# Heat pumps

For those not located in a heat network area, heat pumps present another option.

Heat pumps capture heat from outside sources such as the ground, air, or water, and moves it into your building. It uses electricity to do this, however heat pumps are more efficient than other heating systems as the quantity of heat delivered is much greater than the quantity of electricity used.

Find out more about heat pumps in this [in-depth guide](#) from the Energy Savings Trust and this [Complete Guide to Heat Pumps](#) from The Renewable Energy Hub UK.



# Support and resources



# Resources

- 🏠 [Green relief for business rates](#) — until 2035, there will be business rate exemptions for companies investing in green technology, such as solar panels and battery storage, and a 100% relief for eligible low-carbon heat networks with their own rates bill.
- 👤 [Energy technology list \(ETL\)](#) — a list of energy-saving products for businesses and the public sector, updated monthly by the Department of Business, Energy, and Industrial Strategy.
- 🌸 The West of England Combined Authority (WECA) offers [Green Business support](#), including 360° business support with the Growth Hub team.
- 🌿 WECA also offer a free [Carbon Survey & Decarbonisation Report](#) for SMEs in the region.
- ✳️ Bristol Energy Co-operative [offers free Solar PV](#) to businesses, schools, and community organisations across Bristol.
- 🔌 Online tools, such as [Stark](#), help analyse data and manage energy.
- 🕒 Energy Saving Trust's [Energy Walkaround Checklist](#).
- 👤 Energy Saving Trust's [guide to energy efficiency in the workplace](#).

# Find out more

Thank you for using this guide and finding out how your organisation can reduce its energy-related emissions. 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@bristolclimatenature.org](mailto:contact@bristolclimatenature.org).

This guide is part of Bristol Climate & Nature Partnership's Climate Action Programme, which offers events, communications, and resources to help organisations at all stages of their climate action journey reduce their carbon emissions. Find out more about the programme [here](#).

If you aren't already one of the Partnership's 1,300+ 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 Anthesis, in particular Eloise Cuff, Senior Energy Consultant, for helping make this guide possible.



[bristolclimatenature.org](https://bristolclimatenature.org)

# With thanks to our Climate Action Programme sponsors



## and Partnership supporting members



# WORKING TOGETHER FOR BRISTOL'S FUTURE



Bristol Climate & Nature Partnership



[bristolclimatenature.org](https://bristolclimatenature.org)



[@bcnpartnership](https://twitter.com/bcnpartnership)



[Bristol Climate & Nature Partnership](https://www.linkedin.com/company/bristol-climate-nature-partnership/)



Bristol Climate &  
Nature Partnership