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YOUR CARBON REPORT

Example High Street Shop

Prepared By:
For the attention of:



BACKGROUND

This free report has been produced by the West of England Combined Authority as part of our Carbon Surveys scheme, which is funded by the [Green Recovery Fund](#). Following a survey of your business on 9th April 2024, this report estimates your current carbon emissions and identifies steps you could take to decarbonise.

We have used information gained during the survey, as part of your expression of interest and any subsequent information requests to produce this report. If further investigation or more information is required, then this is highlighted as appropriate. The improvements that make the most impact are shown first; however, we do not recommend any particular options, nor do we guarantee that measures will achieve the savings calculated and stated in this report.

Carbon emissions are calculated using the UK Government [greenhouse gas reporting conversion factors 2023](#) for CO₂ equivalent (CO₂e), and include both direct (scope 1 and 2) and indirect (scope 3) emissions relating to the production and consumption of energy in the UK. Energy costs are calculated using your energy tariffs, where available. This report does not set out the planning consent or building regulations that may be required for any works.

If you would like any further information or have any questions, feel free to contact us on 0117 332 1520 or email lowcarbonbusiness@westofengland-ca.gov.uk.

Why are Decarbonisation, Energy Efficiency and Resource Efficiency Important?



The West of England Combined Authority declared a climate emergency in July 2019, alongside our local authority partners. We have committed to net-zero carbon emissions by 2030, contributing towards maintaining global warming at less than 1.5°C above pre-industrial levels.



We are ambitious in supporting a green recovery from COVID-19, building on the positive behaviour changes brought about by the pandemic to help businesses to transition to low carbon approaches, as well as create new businesses and jobs.



Commercial utility costs have increased steeply over the last 12 months and are forecast to increase by 14% on average over the next 15 years. Therefore, action to reduce your carbon emissions could also reduce the impact of rising bills on your business overheads and bottom line.



The low carbon economy is predicted to grow by 11% per year up to 2030, creating around one million jobs nationally. This could represent 35,000 new jobs in the West of England by 2030, and 65,000 by 2050.



The water industry accounts for 1% of total UK greenhouse gas emissions. Using and wasting less hot and cold water through more efficient fittings can cut emissions, decarbonise the economy and support the creation of new technologies.



Approximately 80% of environmental impacts are determined at the design stage of a new product. By viewing waste as a design flaw and opting for circular practices we could significantly reduce waste and waste processing, and avoid the sourcing of unused, raw materials.

ABOUT YOUR BUSINESS

Street Address, Town/City, Postcode

Business Activity: High Street shop.

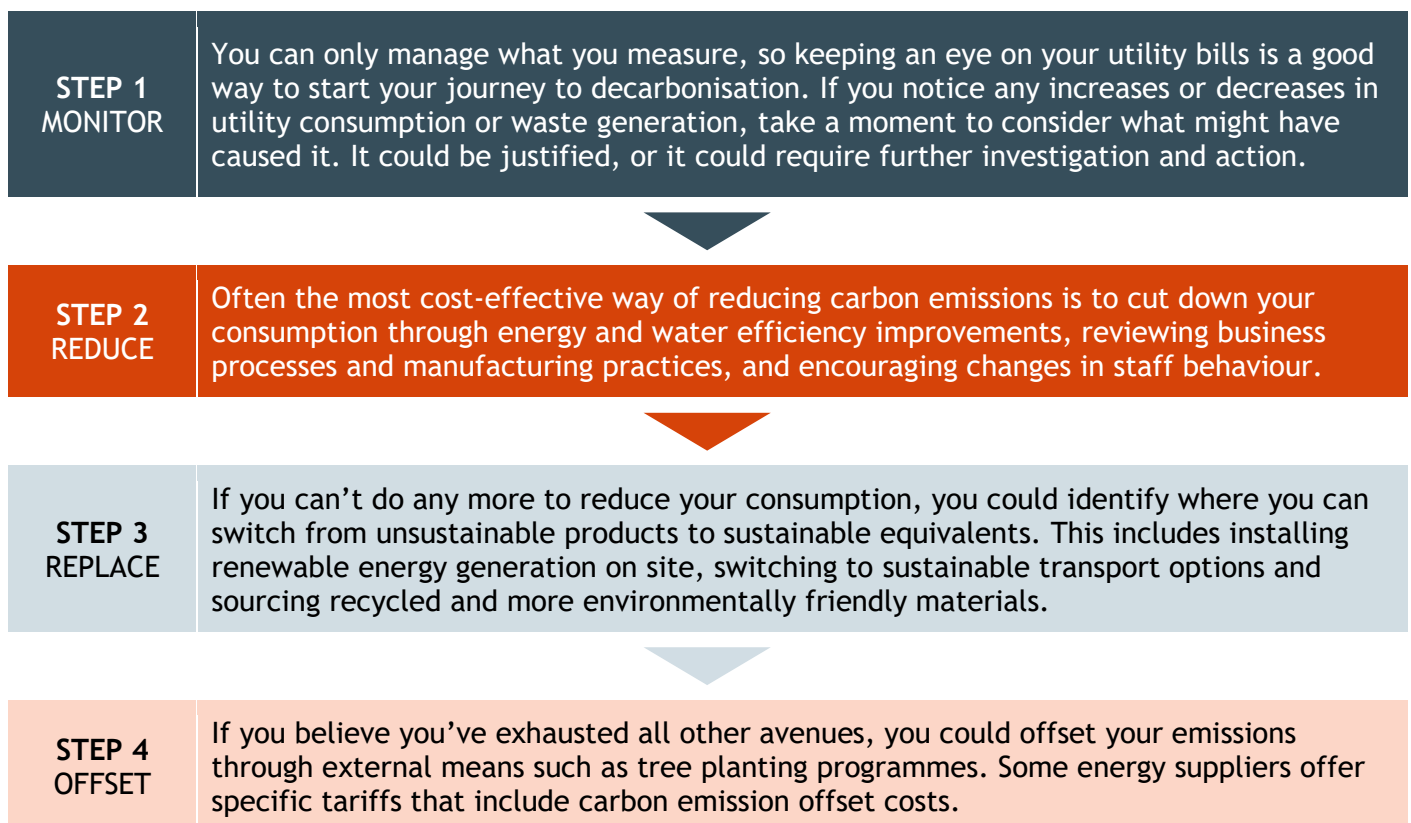
Your Recent Decarbonisation Activities

- You have removed your gas supply and installed solar panels to support your electricity demand.
- You use e-bikes to deliver orders around the city.

Your Decarbonisation and Environmental Challenges

- Your premises is an old period property, with single glazing and an uninsulated flat roof.

DECARBONISATION STEPS TO SUCCESS







YOUR ANNUAL CARBON EMISSIONS

The table below summarises your annual utility consumption and associated carbon emissions. This is based on information that you provided before the survey, which has been analysed to provide an estimate of annual consumption, carbon emissions and cost. The site is served by electricity only:

Utility	Annual Consumption	Annual CO ₂ e Emissions	Annual Cost
Grid Electricity	5,612 kWh	1.5 tCO ₂ e	£1,033
Total	5,612 kWh	1.5 tCO₂e	£1,033

YOUR CARBON REDUCTION OPTIONS

Based on our survey and the information you have provided, we have identified the following potential ways in which you could save energy and carbon in your business, which are sorted in order of the greatest carbon impact:

Recommendation	Estimated Annual Consumption Saving	Estimated Annual CO ₂ e Saving	Estimated Annual Cost Saving
 Secondary Glazing	1,104 kWh (20%)	0.3 tCO ₂ e	£203
 Flat Roof Insulation	898 kWh (16%)	0.2 tCO ₂ e	£165
 LED Lighting	401 kWh (7%)	0.1 tCO ₂ e	£74
 Room Thermostats	196 kWh (3%)	0.1 tCO ₂ e	£36

Secondary Glazing

Your premises has single glazed windows throughout which are likely to be losing a lot of heat and increasing electricity consumption. Your windows look suitable for installing secondary glazing which could reduce their heat loss by around 60%.

As a listed building within the Bath conservation area, you would need to get permission for secondary glazing to be installed. A less cost-effective alternative could be to install slim profile double glazing. This may be more likely to be granted permission as it has a more similar appearance to single glazing and is more in-keeping with many listed buildings within the Bath conservation area.

The energy and carbon savings calculated are based on replacing approximately 11m² of single glazed windows with secondary glazing on the first floor and rear wall, with a 60% reduction in heat loss.

To find a local window installer, visit [FENSA's Approved Installer webpage](#).

Flat Roof Insulation

The flat roof of your premises is assumed to be uninsulated. You could install insulation to help retain more heat in the building. Insulating your roof could also reduce the risk of overheating in the summer as well.

Roof insulation can be applied to either the internal or external side of the existing roof. External insulation means that the roof is clad on top and then weatherproofed. With internal insulation there is a risk that moisture may build up and cause mould and mildew if the roof is not well weatherproofed on the outside. An air gap is often built into the insulating structure to allow for ventilation and avoid this. A roof insulation and weatherproofing specialist would be able to advise on what would be most suitable for your building and provide a quote for the works.

The energy and carbon savings calculated are based on insulating 23m² of roof with an estimated 75% reduction in heat loss.

For more information, take a look at the Energy Saving Trust's advice on [loft and roof insulation](#).

LED Lighting

The lighting in your business is mainly made up of fluorescent tubes.

Equivalent LED fittings are available that are likely to reduce your lighting energy consumption by 60%. Your maintenance and replacement costs are also reduced as LED lights tend to last around 50,000 hours, compared to 15,000 hours for fluorescent.

The energy and carbon savings calculated are based on replacing 23 14W and 3 58W fluorescent tubes with equivalent LED fittings. You would need to arrange a survey with a lighting contractor to obtain a detailed quote for LED lighting appropriate to your business' needs.

For more information, take a look at the Energy Saving Trust's guide on lighting: [The Right Light](#).

Room Thermostats

You have an electric inline boiler that directly heats your radiators and provides hot water. The heating is currently turned on by a programmable timer and by manually boosting the heating outside the programmed period. You then use the thermostatic radiator valves (TRVs) to control the temperature at the radiators.

You could install multiple room thermostats to create heating zones within the building. This may create a more efficient heating system by allowing the boiler to switch off when the correct room temperature is reached, allowing pipes to cool and minimising pipe heat loss.

Thermostats should be mounted around 5ft from the floor for greater consistency with ambient room temperature. You can then experiment where works best but try to aim for a position that best represents the overall temperature of the space. You would need to speak with a heating engineer to establish what is possible with your existing heating system.

The energy and carbon savings calculated assume a 5% reduction in electric heating usage by installing and setting up room thermostats over the ground and first floor.

FURTHER RECOMMENDATIONS

The recommendations below have been identified; however, energy and carbon savings have not been calculated because:

- they are a behavioural measure, so savings are difficult to quantify;
- it is not possible to calculate a saving without more detailed or specialist investigation; and/or
- the measure does not achieve a direct energy and carbon saving for the business.

Draught Proofing

To reduce heating energy consumption and improve comfort for staff and customers, you can ensure that all draughts such as from doors, windows and chimneys are blocked up where possible. Draughtproofing tape and brushes can be purchased at low cost from DIY stores and installed yourself. Pay particular attention to your entrance door and any old wooden sash windows and wooden door frames, as these are the most common sources of draughts.

Turn Down TRVs

Your radiators have thermostatic radiator valves (TRVs) that can be manually adjusted to switch the radiator on and off depending on the temperature in the room. Most TRVs have set points from 0 to 5. Setting the radiator to 3 will regulate the room temperature at approximately 21 °C. Once set to the desired temperature, TRVs should not require any manual adjustment to maintain a comfortable room temperature and increasing the setting will not heat a space up any faster. By adjusting the TRVs accordingly and combining with room thermostats, you may see greater savings than calculated above.

Aerated Taps

Your taps may be consuming more hot water than necessary. Aerated tap inserts and fittings reduce the amount of water used by mixing the water with air. This often results in a 50% reduction in water and hot water consumption through the tap.

Many modern tap fittings can be retrofitted with aerating inserts, which are very cheap to buy and fit. If your taps are not suitable, they would need to be replaced.

You will need to speak to your local plumber if you want to gain a more detailed scope and quote for the works. Visit [WaterRegsUK](https://www.waterregs.uk) to view WaterSafe Approved Contractors and find a local commercial plumber to carry out the work.

FURTHER INFORMATION

Bath Clean Air Zone - About the zone, charges and support - <https://beta.bathnes.gov.uk/bath-clean-air-zone>

Bristol Clean Air Zone - About the future zone and support - <https://www.bristol.gov.uk/streets-travel/bristol-caz>

Business West - Trading to Net Zero resources - <https://www.businesswest.co.uk/trading-to-net-zero>

CIGA - Cavity Insulation Guarantee Agency including advice and installer directory - <https://ciga.co.uk/>

Energy Saving Trust - Advice and guidance on home and business energy efficiency and sustainability - <https://www.energysavingtrust.org.uk/>

Energy Technology List - List of approved energy and water saving products that qualify for Enhanced Capital Allowances - <https://www.gov.uk/guidance/energy-technology-list>

FENSA - Approved installers of windows and doors - <https://www.fensa.org.uk/>

Microgeneration Certification Scheme (MCS) - Approved products and installers of renewable energy - <https://mcs-certified.com/>

National Grid - Advice on connecting energy generation such as solar PV to the grid - <https://connections.nationalgrid.co.uk/get-connected/>

Planning Portal - UK Government - <https://www.planningportal.co.uk/>

Smart Export Guarantee (Ofgem) - Scheme that pays small-scale low carbon generators such as solar PV for electricity exported to the National Grid - <https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg>

SWIGA - Solid Wall Insulation Guarantee Agency including advice and installer directory - <http://www.swiga.co.uk/>

Water Regulations Advisory Scheme (WRAS) - Approved plumbers and water products - <https://www.wras.co.uk/>

MORE SUPPORT FOR YOUR BUSINESS



Green Business Support - Whatever stage your business is at, we can help you find the right support to take the next step in your sustainability journey.

<https://www.westofengland-ca.gov.uk/growth-hub/green-business-support/>



Discover **skills, training, and career support** in the West of England to help you and your business get to where you want to be.

<https://www.skillsconnect.org.uk/>



Travel in the **West of England** made simple. Plan journeys, get travel updates and find out about support and grants for businesses.

<https://travelwest.info/for-businesses>



Become a **West of England Good Employment Charter** supporter and show customers and staff that you embrace the characteristics of good employment including security, flexibility, wellbeing, development, and sustainability.

<https://www.goodemploymentcharter.co.uk/>