COUNT YOUR CARBON

Carbon Reduction Guide

Produced by

Eco-Schools

With KEEP BRITAIN TIDY.

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Made possible by

Bupa Foundation

POSTCODE EARTH TRUST

CALISEN Smarter energy for all

Contents

Use the links below to navigate this document easily

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Introduction

This guide for schools has been developed by carbon reduction experts Arete Zero Carbon. It has been designed to support you to generate a tailored Carbon Reduction Plan, which takes into consideration your Carbon Footprint Report alongside your schools' specific context in terms of budget and capacity.

We advise that you access this document digitally, so that you can easily navigate it using the jump-links throughout.

Your Carbon Reduction Plan should outline a series of actions which you plan to implement over a 1-3 year period. This document features over sixty carbon-cutting actions for you to consider. These actions are categorised by 4 operational areas, and further categorised under several metrics to enable you to identify those which are most appropriate for your setting.

There is guidance on how to navigate the document and the carbon-cutting actions on the following pages.

What is expected of schools and nurseries from 2025?

The **DfE's Sustainability and Climate Change Strategy** prompts schools and nurseries to have embedded a sustainability leadership team and a Climate Action Plan by 2025. A Climate Action Plan should be designed to outline an approach to making positive impact across four key areas:

1. Decarbonisation - an approach to achieving net zero across your school's operations.
2. Adaptation and resilience - an approach that will prepare your school for future impacts of climate change (i.e. floods).
3. Biodiversity - an approach that will make your site greener, capturing carbon and supporting wildlife.
4. Climate education, training and jobs - an approach to develop pupil understanding of climate change and sustainability whilst developing their 'Green Skills' - "the knowledge, abilities, values and attitudes needed to live in, develop and support a society which reduces the impact of human activity on the environment".

Alongside your Carbon Footprint Report, this guide will support you to address Decarbonisation.

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The importance of carbon reduction

Carbon reduction is vital because carbon dioxide (CO_2) and other greenhouse gases trap heat in the atmosphere, driving global warming. This leads to extreme weather, such as floods, heatwaves, and storms, which can damage homes, affect food supplies, and harm wildlife. By cutting emissions, we can slow climate change and protect the planet for future generations.

In the UK, achieving net zero means reducing carbon emissions to as close to zero as possible, with any remaining emissions offset by removing CO_2 from the atmosphere. Carbon neutral, on the other hand, involves balancing emissions by offsetting them without necessarily reducing them at the source.

Net zero is crucial to keeping global temperature rise below 1.5°C, the threshold scientists agree is necessary to avoid the most severe impacts of climate change. By aiming for net zero, the UK is working towards a more sustainable future, where people and nature can thrive. Schools can help by reducing their own carbon footprints, educating students on these goals, and inspiring climate action.

What is 'Net Zero'?

Reducing carbon emissions as much as possible (at least 90%) and then offsetting any remaining emissions, aiming for a long-term reduction.

What is 'Carbon Neutral'?

Balancing the amount of carbon emissions produced through carbon offsetting (like planting trees), to achieve zero net emissions.

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How to use this guide to create a Carbon Reduction Plan

1. Review your Carbon Footprint Report, accessible upon completion of a calculation at **calculator.countyourcarbon.org/reports**

2. Identify your focus areas. These may be the areas that are the highest emitters, the areas where you have particular expertise across your staffing body or the areas where you have budget and capacity to make change.

3. Go through the carbon-cutting actions in this guide (pages 9-28), prioritising those that are within your focus areas, and highlight the ones which align with your budget and capacity limitations.

4. Discuss & select up to 10 actions that feel realistic to implement or work towards across a 1-3 year period. Then, download our **handy spreadsheet**. This will allow you to filter the recommendations of your choice and auto-populate a Carbon Reduction Plan for your setting in just a few clicks.

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How This Guide Works

The Count Your Carbon calculator itemises your carbon footprint under 11 emissions categories, grouped under 4 key operational areas. This guide uses the same operational areas to group carbon reduction actions:

Energy, waste & water

Transport

Food & drink

Purchasing

Within these 4 operational areas, actions are presented in further sub-categories. For example, one sub-category is 'Energy Efficiency', focussing on actions that will reduce your energy-use.

Each action is presented in a table, with a key to help you identify which ones suit your budget and capacity, and therefore should be prioritised.

An example of how the actions are presented can be seen below. The next 3 pages explain the headers and indicators in the key.

Action	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Install Solar PV	Control	By harnessing energy from the sun, these panels convert sunlight into electricity, providing a sustainable and renewable electricity source.	↓↓↓	£££££	£££	☻☻☻☻☻

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Understanding the key: 'Boundary'

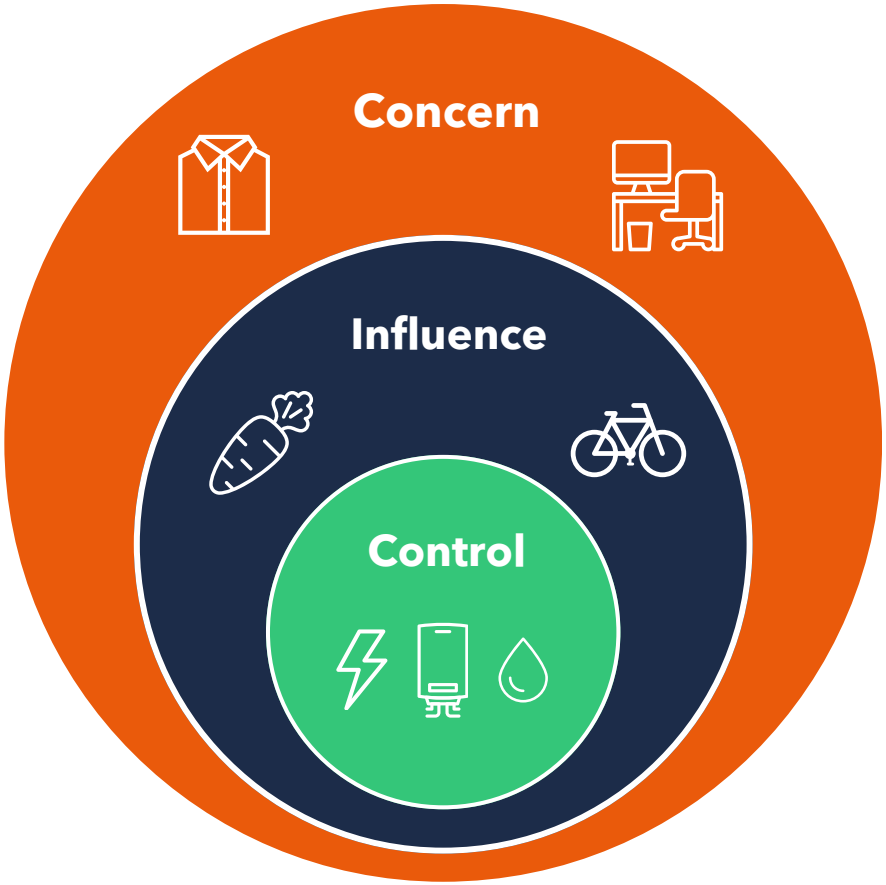
This indicator helps you to understand where you can make the biggest impact when reducing carbon at your school.

We've split carbon-reducing actions into three areas:

Control: These are actions that your school can directly manage, like reducing energy use or cutting down on waste. Start here because these are the things you have the most power to change. For example, your school's biggest source of emissions may be transport, but as your students drive from far away, and public transport is limited, you can't easily reduce these emissions. Instead, it makes sense to focus on another area where you do have more control, like energy use in school.

Influence: These are things you can't fully control but can still influence, like encouraging students to eat more plant-based meals in your canteen. Focus on these after you've done as much as possible under "Control."

Concern: These are things you can't control or influence much, like big industry changes or government policy. While you can't do much about these directly, it's important to stay aware of them for the future.



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Understanding the key: PCR and CAPEX

Potential Carbon Reduction (PCR) Refers to how impactful the action could be in reducing your total carbon footprint	
↓	< 1% reduction in total carbon emissions
↓ ↓	2% - 5% reduction in total carbon emissions
↓ ↓ ↓	6% - 10% reduction in total carbon emissions
↓ ↓ ↓ ↓	11% - 15% reduction in total carbon emissions
↓ ↓ ↓ ↓ ↓	> 15 % reduction in total carbon emissions

Capital Cost (CAPEX) Refers to upfront costs to install or implement the action	
£	Only internal resources required
££	Small project which may require an external consultant
£££	Big project/small installation of a product/good requiring an external consultant
££££	Installation of fabric retrofits or technological improvements
£££££	Substantial budget required, involving feasibility studies, and obtaining numerous quotes

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Understanding the key: OPEX and EOI

Operational Cost (OPEX) Refers to the costs to run/operate the action, including any recurring fees throughout the life of the action	
£	Minimal (e.g. routine maintenance by internal staff)
££	Low (e.g. occasional external service required)
£££	Moderate (e.g. periodic external service or supplies)
££££	High (e.g. regular external service or expensive supplies)
£££££	Very high (e.g. frequent external service, specialised staff needed)

Ease of Implementation (EOI) Refers to how easy the measure could be to implement	
☺	Very easy, no technical expertise required, can be done in-house
☺☺	Easy, this measure can be mostly implemented in-house, may require minor external support
☺☺☺	Will require external support to plan and install, but can be implemented quickly
☺☺☺☺	Challenging, may require multiple external partners
☺☺☺☺☺	Very challenging, requires multiple external partners, likely will require planning permission, approval from council etc.

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Carbon reduction actions

The following pages contain carbon reduction actions, grouped into operational area and further sub-categories within them. Click the jump-links below to go straight to the carbon reduction actions for each area.

Energy, Waste & Water

- Building Audit and Review
- Fabric Efficiency
- Energy Efficiency and Demand Reduction
- Heating and Cooling
- Energy Procurement & Generation
- Waste & Water Reduction

Transport

- Student commuting
- Staff commuting
- School trips

Food & drink

- Food and drink consumption

Purchasing

- Sustainable Procurement

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Energy, Waste & Water

How to Make Your School More Energy Efficient

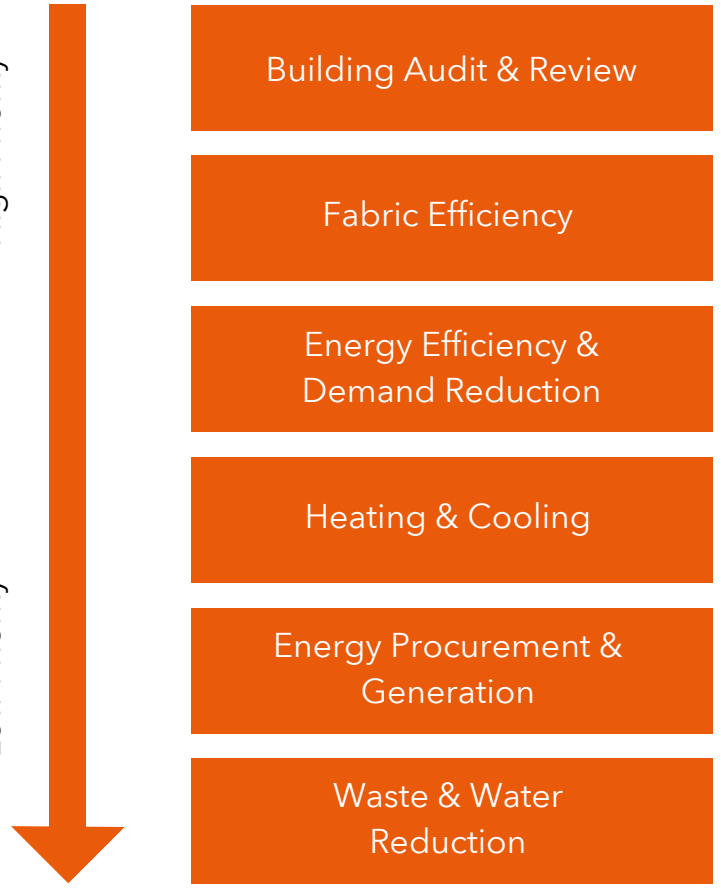
Reducing the energy your school uses is the first step in cutting carbon emissions. It's important to start with a fabric-first approach. This means improving the buildings to ensure they use less energy. You can do this by:

- Upgrading the building's insulation or windows.
- Replacing old equipment with modern, energy-saving versions.

Once you've made your school as energy-efficient as possible, the next step is to decarbonise. This means:

- Buying green energy (like electricity or gas from renewable sources).
- Installing things like solar panels to produce your own energy.

This will help your school reach its sustainability goals and lower your carbon footprint.



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Building Audit & Review

Action	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Deliver a self-led energy audit	Control	An easy activity to undertake, use our simple **energy audit** to understand the sustainability of their energy practices, the key factors that contribute to this, and to identify areas within your control that you can change.	No reduction	No CAPEX	No OPEX	☻
Commission an external energy audit	Control	Seek a professional to conduct an energy audit, this is a proactive step that schools can take to better understand and manage energy usage. Whilst this might not lead directly to carbon reduction, it will help you identify where carbon reductions can be made.	No reduction	ff	f	☻☻

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Fabric Efficiency

Action	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Insulate wall cavities	Control	Wall cavities refer to the empty spaces within the walls of a building. Insulating these spaces can help trap heat and reduce carbon emissions associated with heating a building.	↓↓↓	££££	££	☻☻☻
Install loft insulation	Control	Loft insulation acts as a material barrier within the roof space, effectively trapping heat in the winter while maintaining a cooler environment in the summer.	↓↓↓	££££	££	☻☻☻
Install double glazing	Control	Double glazing consists of two glass layers with insulating gas sealed between them.	↓↓↓	££££	££	☻☻☻

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Energy Efficiency & Demand Reduction

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Install an Energy Management System (EMS)	Control	An EMS is a system that helps monitor and control the energy use in a building or group of buildings. It tracks things like electricity, gas, and water usage, so schools can find ways to save energy and reduce costs.	↓	ff	f	☻☻
Install an Building Energy Management System (BEMS)	Control	A BMES is a more advanced type of energy management system that focuses specifically on the energy used within a building. It controls things like heating, ventilation, air conditioning, and lighting to make the building more energy-efficient.	↓	fff	f	☻☻☻
Install LED Lighting	Control	LED lights consume significantly less energy than traditional lighting options, resulting in lower electricity bills and reduced carbon emissions.	↓	ff	f	☻☻
Install sensors to detect optimal temperature for kitchen appliances	Control	These sensors detect optimal temperatures, thereby helping to maintain or monitor the desired temperature levels.	↓	f	f	☻☻

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Heating & Cooling

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Install programmable thermostats & thermostatic radiator valves (TRVs)	Control	By installing programmable thermostats and TRVs, schools can control heating more efficiently. Programmable thermostats let you schedule heating, while TRVs adjust the temperature in each room, This reduces energy use, cuts costs, and keeps rooms comfortable.	↓	ff	f	☻☻☻
Consider infrared heaters	Control	These heaters are more efficient than standard heaters and work by directly emitting infrared radiation to heat objects and people in their path.	↓↓	fff	ff	☻☻☻
Install energy-efficient HVAC	Control	Upgrading your school's HVAC (Heating, Ventilation, and Air Conditioning) system can improve energy efficiency and indoor air quality. Modern HVAC systems use less energy to heat and cool buildings, reducing carbon emissions.	↓↓	fff	fff	☻☻☻
Consider a Combined Heat and Power System (CHP)	Control	A CHP system generates both electricity and heat at once, making energy use more efficient by capturing and using heat that would otherwise be wasted, such as for heating water or buildings.	↓↓↓	ffff	ff	☻
Consider upgrading to an energy-efficient gas boiler	Control	Upgrading to an energy-efficient gas boiler reduces gas use, lowers emissions, and cuts energy bills, helping your school become more eco-friendly.	↓↓	fff	fff	☻☻☻

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Energy Procurement & Generation

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Switch to Renewable Energy Contracts	Control	This is when a school signs a contract to buy electricity from renewable sources like wind, solar, or hydro power. The school gets its energy from the grid, but it ensures that the energy it uses comes from green sources.	↓↓↓	£	£	☻
Install on-site Renewable Energy	Control	Schools can install renewable energy systems, like solar panels or wind turbines, to generate their own electricity. This means the school produces its own green energy on site, reducing reliance on the grid.	↓↓↓	£££££	£££	☻☻☻ ☻☻
Power Purchase Agreements (PPAs)	Control	A PPA is a long-term contract where a school agrees to buy green energy directly from a renewable energy provider, such as a wind or solar farm. This usually offers a stable price and helps support the development of more renewable energy projects.	↓↓↓	£	£	☻☻☻

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Waste & Water Reduction

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Encourage recycling	Control	Recycling is the process of breaking down and reusing materials that are thrown away, reducing the amount of waste that goes to landfill and causes pollution.	No Reduction	£	£	☻
Implement a zero-landfill policy	Control	A zero-landfill policy refers to the principle of reducing the amount of waste that goes to landfill to zero.	No Reduction	£	No Opex	☻
Conduct a food waste review	Control	For better control over food waste, conducting a food review is essential. This involves considering the quantity needed when ordering food for preparation and identifying ways to reduce waste. It also reduces your spending and consumption.	No Reduction	£	£	☻
Weigh food waste	Control	Use scales to accurately measure the weight of food waste generated in schools. This information can be used to inspire pupils and staff to waste less.	No Reduction	£	£	☻
Donate excess edible food	Control	Compile leftover food that is good quality, so that it can be donated to local food banks. This ensures food that would otherwise go in the bin, can be used elsewhere.	No Reduction	£	£	☻

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Waste & Water Reduction continued

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Fix leaks and drips	Control	Leaks and dripping taps effectively mitigates the loss of water resources.	No Reduction	£	£	☻
Implement a water management policy	Control	A water management policy is a structured plan that outlines guidelines and strategies for the responsible and efficient use of water resources.	No Reduction	£	£	☻
Introduce a drip irrigation for school vegetable plots	Control	A drip irrigation system that delivers controlled volumes of water to either: 1) the surface - allowing it to sink down to plant roots; or 2) the sub-surface - directly to plant roots through a network of tubes.	No Reduction	£££	£	☻☻☻
Recycle Greywater	Control	This is the process of collecting, treating, and reusing wastewater from various sources such as sinks, showers and laundry, for non-potable purposes such as flushing toilets, irrigation and landscape management.	No Reduction	£££	££	☻☻☻ ☻☻
Install a sustainable drainage system	Control	A drainage system that captures and treats water at its source to prevent flooding and pollution.	No Reduction	£££££	£££	☻☻☻☻

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Transport

How to Travel More Sustainably

Travelling sustainably can be challenging and identifying ways to reduce your carbon footprint in this area can be difficult. For schools, we have identified 3 key areas to reduce carbon emissions.

- Staff Commuting: The travel methods chosen by staff members commuting to and from the school.
- Student Commuting: The travel methods chosen by pupils and their parents or guardians commuting to and from the school.
- School Trips: Local, national and international trips for students, arranged by the school.

Whilst it may not be possible to directly control these emissions, schools can influence behavioural change through thought leadership, educating both staff and students, and incentivisation such as salary sacrifice schemes.

An average journey from London to Glasgow per single passenger is the equivalent to ....

...and walking or cycling is the best of all, with 0 emissions!

Source

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Student Commuting

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Review student travel	Influence	This is the process of investigating the travel patterns of students around their journeys to school. It can be used to identify areas where support or improvement is required to increase sustainable travel.	No reduction	£	£	☻
Promote walking to school	Influence	Promoting and encouraging students to walk to school rather than using other modes of transport such as cars, buses, trains etc.	↓↓	£	£	☻
Promote cycling to school	Influence	Promoting and encouraging students to cycle to school rather than using other modes of transport such as cars, buses, trains etc.	↓↓	£	£	☻
Introduce 'Park & Stride'	Influence	Park and Stride means driving some of the way to school, parking up and walking the rest of the way.	↓	£	£	☻
Install secure bike sheds	Influence	Secure bike sheds will offer a secure space for staff and students to store their bikes on school premises, inspiring increased active travel.	No Reduction	£££	££	☻☻

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Student Commuting continued

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Create a School Travel Plan	Influence	A School Travel Plan is a practical plan used by schools to manage their transport patterns and inspire less car and bus travel and increase active travel.	No Reduction	£	£	☻
Encourage students to carpool	Influence	Carpooling involves a group of people travelling to the same destination to reduce the need for multiple vehicles travelling to the same place.	↓	£	£	☻
Promote public transport to school	Influence	The promotion of the use of buses, trains, and other forms of transport that are available to the public will reduce the amount of vehicles entering the school area, limiting carbon emissions and air pollution.	↓↓	£	£	☻
Incorporate a travel awareness week	Influence	Promoting and encouraging students to walk to school rather than using other modes of transport such as cars, buses, trains etc.	No Reduction	£	£	☻
Replace existing school buses, when needed, with electric alternatives	Influence	Electric buses offer a low carbon/ zero emissions alternative to fuel-based buses. When existing buses are to be replaced, electric versions could be procured.	↓↓↓	£££££	£££	☻☻

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Staff Commuting

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Review staff travel	Influence	This is the process of investigating the travel patterns of staff to their place of work. It can be used to identify areas where support or improvement is required to increase sustainable travel.	No Reduction	£	£	☻
Implement a Cycle to Work scheme	Influence	Cycle to Work scheme is a UK Government tax exemption initiative to promote healthier journeys to work and to reduce environmental pollution.	↓	£	£	☻☻
Install facilities for staff to wash & get ready if they cycle to school	Influence	Facilities for staff may include a shower block and bike equipment storage (i.e. lockers) to prompt increased cycling to school.	No Reduction	£££	££	☻☻☻
Promote walking to work	Influence	Promoting and encouraging staff to walk to work rather than using other modes of transport such as cars, buses, trains etc.	↓	£	£	☻
Introduce a salary sacrifice scheme for annual public transport passes	Influence	A salary sacrifice scheme or season ticket loan scheme is offered to employees to help pay for public transport passes, reducing the volume of car travel.	↓	£	£	☻☻

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Staff Commuting continued

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Encourage staff to carpool to work	Influence	Carpooling involves a group of people travelling to the same place of work to reduce the need for multiple vehicles travelling to the same place.	↓	£	£	☻
Install onsite Electric Vehicle (EV) charging ports	Influence	The installation of charging points for Electric Vehicles at school sites for the use of staff and visitors. This may prompt an increase in EV over petrol car purchasing.	No Reduction	£££	££	☻☻☻
Introduce a salary sacrifice scheme for EVs	Influence	A salary sacrifice car scheme is an employee benefit that allows your team to access a range of electric vehicles at no upfront cost.	↓	£	£	☻☻

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School Trips

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Implement a zero-flight policy	Influence	Removing plans for air travel and facilitating trips to use alternative greener modes of transport.	↓↓	£	£	☻

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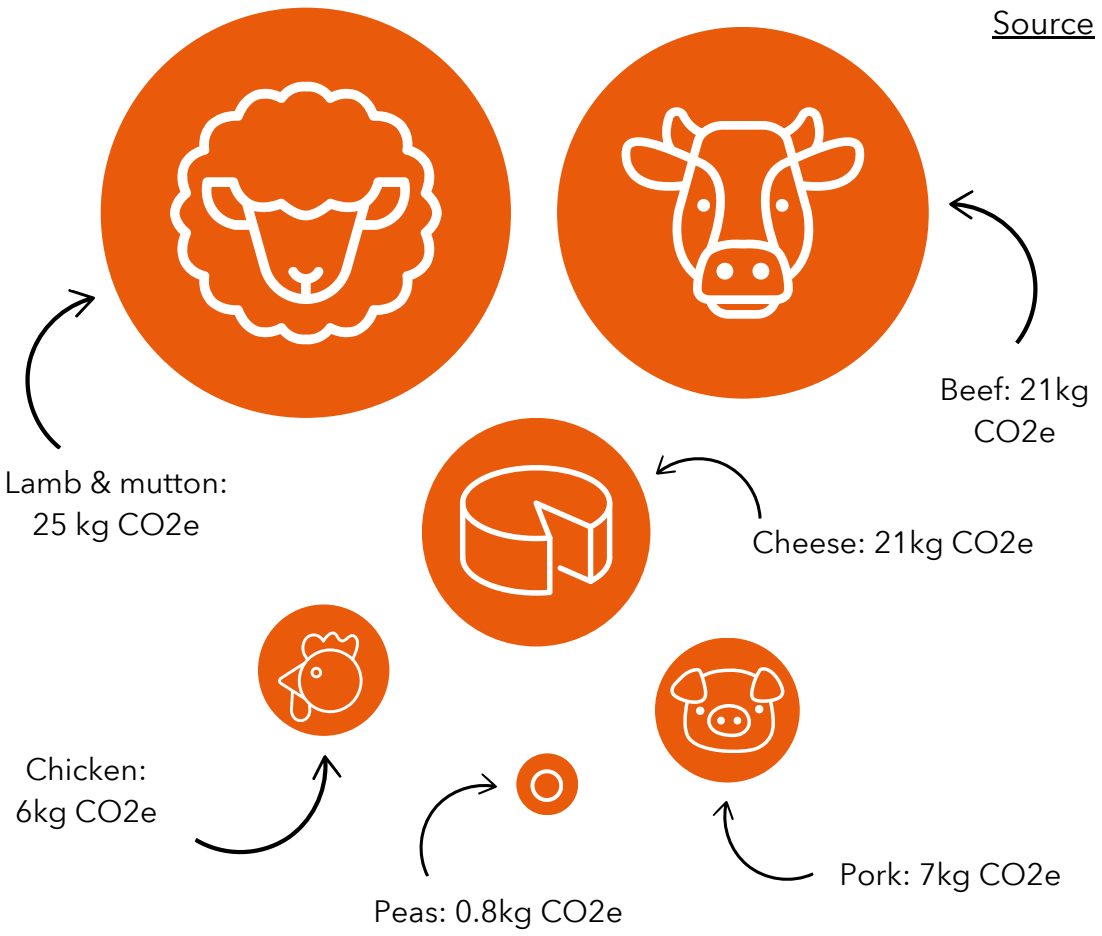
Food & Drink

The production and transportation of different meal types has a hugely varied impact on the size of our carbon footprints.

Meat-based meals produce far greater emissions than vegetarian meals, which in turn, produce more emissions that plant-based meals.

The infographic on the right visualises the huge variation in the amount of kilograms of CO2e produced per kg of different food products.

It's clear that eating less meat especially red meat, is better for our planet. Accordingly, this section promotes an increase in the proportion of plant-based portions on your school menu.



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Food and Drink Consumption

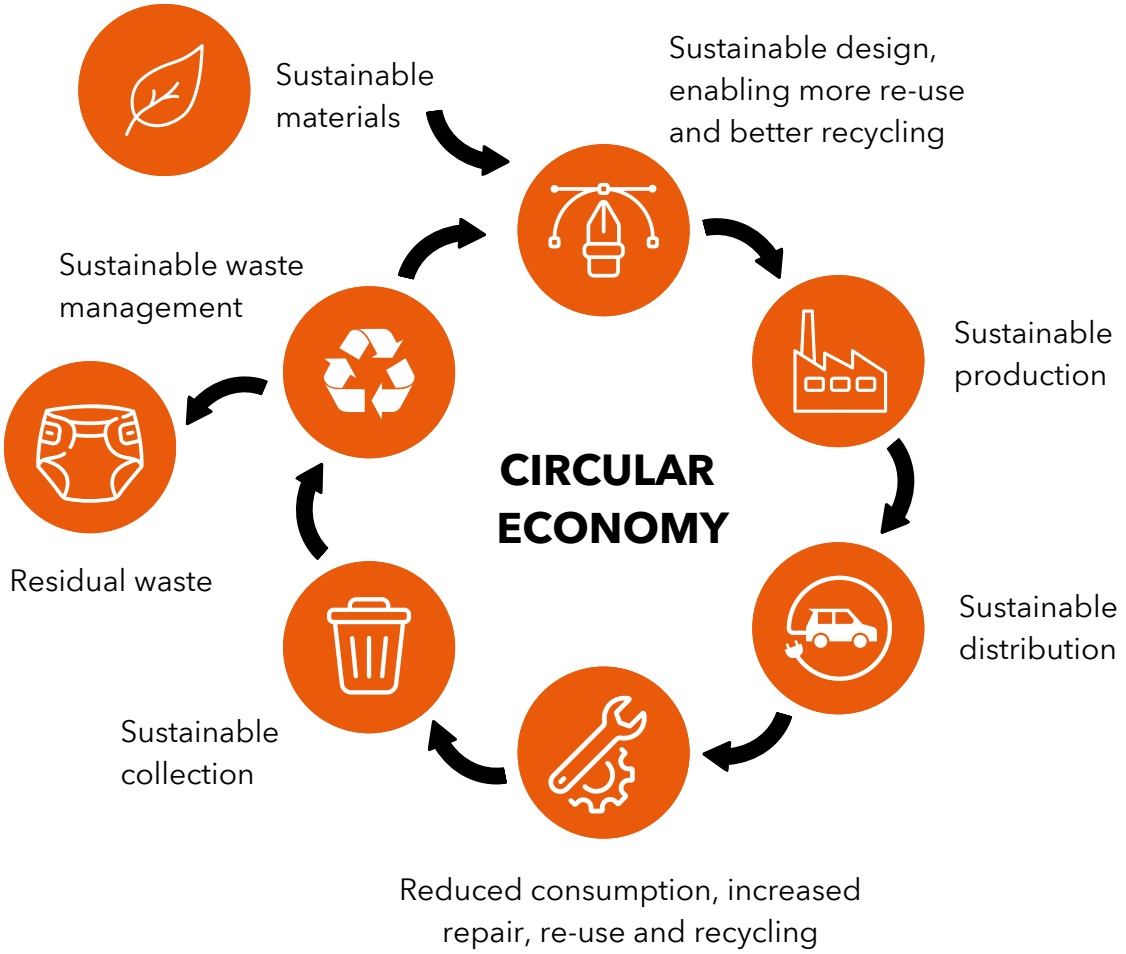
Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Increase the awareness of the climate impact of different food groups	Influence	Explore different food groups to understand their impact on the environment and increase awareness of meat consumption and its negative impacts.	No Reduction	£	£	☻
Reduce meat portion sizes	Influence	Identify the weight of meat in meat-based meals and reduce this weight to a smaller portion that still offers the required nutrition and energy.	↓	£	£	☻
Use descriptive language to ensure plant-based meals sound attractive	Influence	Re-wording current menus to use creative, descriptive and appealing words can increase uptake.	No Reduction	£	£	☻
Introduce a meat free day	Control	Specific days dedicated to supplying meals that contain no meat products.	↓↓	£	£	☻☻
Introduce a plant-based day	Control	Specific days dedicated to supplying meals that only contain plant-based foods.	↓↓	£	£	☻☻

Purchases

As we navigate the challenges of resource shortages and supply chain issues, it's more important than ever for schools to embrace sustainable practices. The environmental impact of mining natural resources is significant, and by focusing on recycling and reusing materials, we can play a part in reducing this impact.

By adopting a circular economy model, we can minimise the need for new raw materials, which in turn helps lower global emissions. This approach not only supports our planet but also teaches students the importance of sustainability and responsible resource management.

By working together, we can set a great example for students and contribute positively to our environment.



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Sustainable Procurement

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Review current and previous procurement habits	Influence	Controlling the ordering process by reviewing current and previous procurement habits in schools to help improve efficiency in future procurements.	No Reduction	£	£	☻
Deliver/commission sustainable procurement training	Influence	This is to educate and engage procurement staff about the importance procurement has on the carbon footprint of the school.	No Reduction	£	£	☻
Incorporate circularity in your procurement initiatives	Influence	As described on the previous page, this approach involves purchasing products that were designed and produced sustainably, made from materials that can be recycled or or managed sustainably as waste.	↓↓	£	£	☻
Consider the repairability of goods during the procurement process	Influence	Procuring goods that are designed to be easily repairable allows for a longer life-span of the items, as rather than being discarded, the items can be repaired with easily sourced replacement parts.	↓	£	£	☻

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Sustainable Procurement continued

Measure	Boundary	What is it?	PCR	CAPEX	OPEX	EOI
Increase warranties on all goods procured	Influence	Through contacting suppliers, the warranties of your school's products can be extended so that your goods stay under warranty for longer.	↓	£	£	☻
Build a maintenance & repair database	Influence	This database is a system used to track, manage and organise information related to the maintenance, repair, and general upkeep of the school's facilities, equipment and infrastructure.	↓	£	£	☻
Buy refurbished products & furniture	Concern	Refurbished products may be unused customer returns that are essentially "new" items, or they may be defective products that were returned under warranty, and resold by the manufacturer after repairing the defects and ensuring proper function.	No Reduction	£	£	☻
Implement a school uniform swap shop	Influence	This is a scheme where families can exchange good-condition school uniforms/equipment, that would otherwise end up in landfill or unused.	↓	£	£	☻

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More resources to support the creation of a Climate Action Plan

Eco-Schools

Eco-Schools is the nation's leading environmental schools programme. It provides a simple framework to support schools and pupils to cover environmental topics in the classroom and to reduce their school's carbon footprint. Over 50% of the schools in the country have taken eco-action under the Eco-Schools banner in the last 5 years, increasing green skills and raising awareness of green careers.

To find out more, visit **eco-schools.org.uk**

Let's Go Zero

For free support turning your recommended actions into a tailored Climate Action Plan, please reach out to the climate action team at Let's Go Zero. No matter where you are on your journey to zero carbon, they can provide free support and guidance to help you on your way.

For more information, visit
letsgozero.org/climate-action-advisors
or email **hello@letsgozero.org**

Eco-Schools: 'Net Zero Heroes'

Check out Eco-Schools' 'Net Zero Heroes' guide, which outlines 10 steps to help you form your sustainability leadership team and create a Climate Action Plan.

Visit **eco-schools.org.uk/eco-projects/net-zero-heroes** to access the guide.

Climate Ambassadors

Climate Ambassadors offers every education setting in England free access to volunteer support to develop and deliver impactful climate action plans.

For more information, visit **www.stem.org.uk/climate-ambassadors/teachers-and-schools**

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