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The Greville Primary School - Climate Action Plan

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Executive Summary

Climate Action Plans provide a strategic framework to aid education settings in tackling climate change and embedding sustainability into their operations and education. The government's sustainability and climate change strategy for education outlines that every education setting will have appointed a sustainability lead and developed Climate Action Plan by 2025.

Zenergi has used The Greville Primary School's responses to the Greener Schools Index alongside findings from the site survey to generate a list of appropriate actions that the school can take to achieve their sustainability goals. 13 actions have been identified covering the four key components of climate action plans in education: Adaptation and Resilience, Climate Education and Green Careers, Decarbonisation, and Environment and Biodiversity.

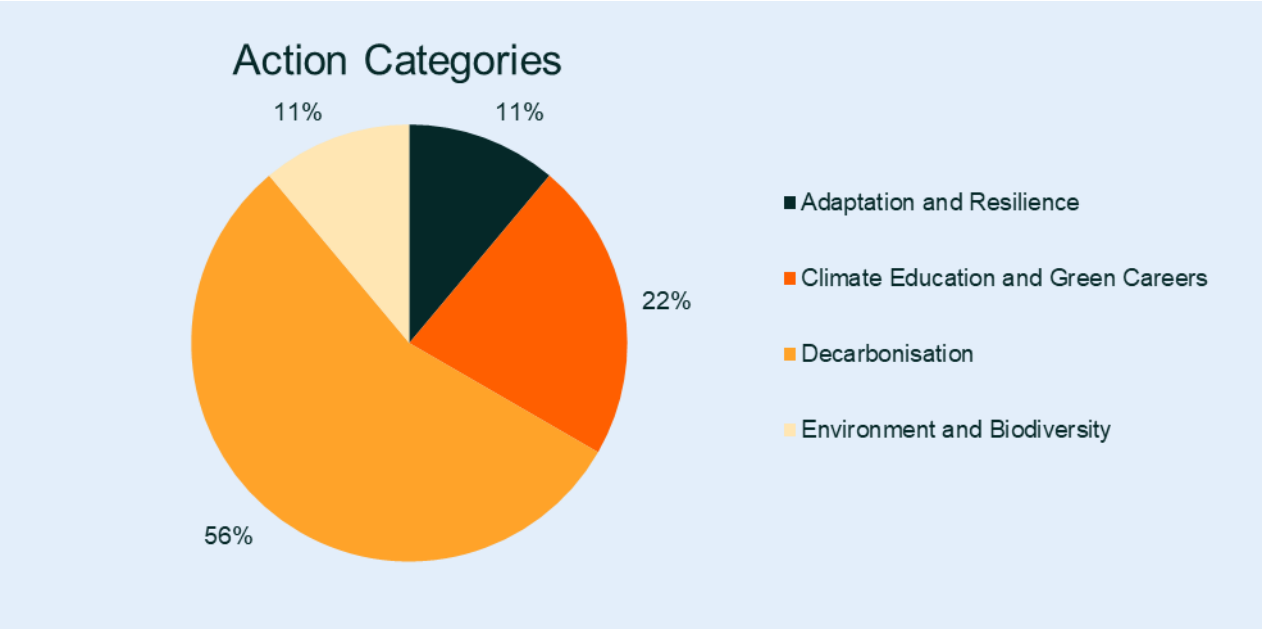

Figure 1 - Recommended actions by category

Sustainable Leadership

Name	Job Title	Sustainability Role	Responsibilities
Duncan Steele	Headteacher	Sustainability lead	Sustainability Committee Member
Sally Thorne	School Business Manager	Sustainability lead	Sustainability Committee Member
Julian Bower	Governor	Sustainability lead	Sustainability Committee Member
Michelle Hinsley	Teacher/YGL	Sustainability lead	Sustainability Committee Member
Cacey Callaghan	Premises Manager	Sustainability lead	Sustainability Committee Member

Table 1 - Roles and responsibilities

Summary of Actions

Table 2 below provides a summary of the actions recommended for The Greville Primary School to further their sustainability practises. Further detail and resources to aid in the implementation of each action can be found in the appendices of this report.

Action	Category	Owner	Suggested Implementation Date	Estimated Cost	Carbon Impact[1]
Zero carbon energy supply	Decarbonisation	Sally Thorne	Contract end date	Low / no cost	🍃🍃🍃
Sustainable leadership training	Climate Education and Green Careers	Sally Thorne Duncan Steele Julian Bower	Jan-26	Included with this product	🍃
Reduce energy consumption through behaviour change	Decarbonisation, Climate Education and Green Careers	Michelle Hinsley Duncan Steele	Feb-26	Low / no cost	🍃🍃
Improve biodiversity of the school site	Environment and Biodiversity, Climate Education and Green Careers	Michelle Hinsley Duncan Steele	Mar-26	Low / no cost	🍃
Install reflective solar film on south-facing classrooms	Decarbonisation, Adaptation and Resilience	Cacey Callaghan	Mar-26	£10 - £20 £ per m²	🍃
Insulate heating pipework	Decarbonisation	Cacey Callaghan	Mar-26	£15 - £50 £ per valve jacket	🍃🍃

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Large impact on emissions reduction	🍃🍃🍃
Medium impact on emissions reduction	🍃🍃
Smaller impact on emissions reduction	🍃

Scope 3 emissions carbon accounting	Decarbonisation	Sally Thorne	May-26	~ £1000 per annual report	
Commission a heat decarbonisation plan	Decarbonisation	Sally Thorne Cacey Callaghan	Oct-26	£5,000 - £7,000	
Replace gas-fired catering equipment with electric equivalent	Decarbonisation	Sally Thorne	Oct-26	£4,000 per unit	
Retrofit cavity wall insulation	Decarbonisation	Sally Thorne Cacey Callaghan	Oct-26	£50 per m^2	
Conduct a feasibility study for on-site renewables	Decarbonisation, Adaptation and Resilience	Sally Thorne Cacey Callaghan	Nov-26	£1,000 - £2,000	
End user engagement	Climate Education and Green Careers	Sally Thorne	Nov-26	~ £1,000	
Commission a transport audit	Decarbonisation, Environment and Biodiversity	Michelle Hinsley Duncan Steele	Mar-27	£500 - £1,500	

Table 2 - Summary of actions

Overview of Current Progress

Annual Energy Consumption

Annual energy consumption data has been provided by The Greville Primary School. Electricity consumption has been taken from August 2024 to September 2025. Gas consumption covers the 12 months from July 2024 to June 2025. Green house gas (GHG) emissions have been calculated using UK Government 2025 emission factors. Emissions are expressed in tonnes of carbon dioxide equivalent (tCO_2e), which standardises the measurement by representing the amount of carbon dioxide that would produce the same global warming potential as the greenhouse gas emissions in question. This approach enables consistent comparison across different types of emissions.

	Electricity	Natural Gas	Total
Energy Consumption (kWh)	102,913	279,546	382,459
GHG Emissions (tCO_2e)	18.2	56.7	74.9

Table 3 - The Greville Primary School annual energy consumption and emissions

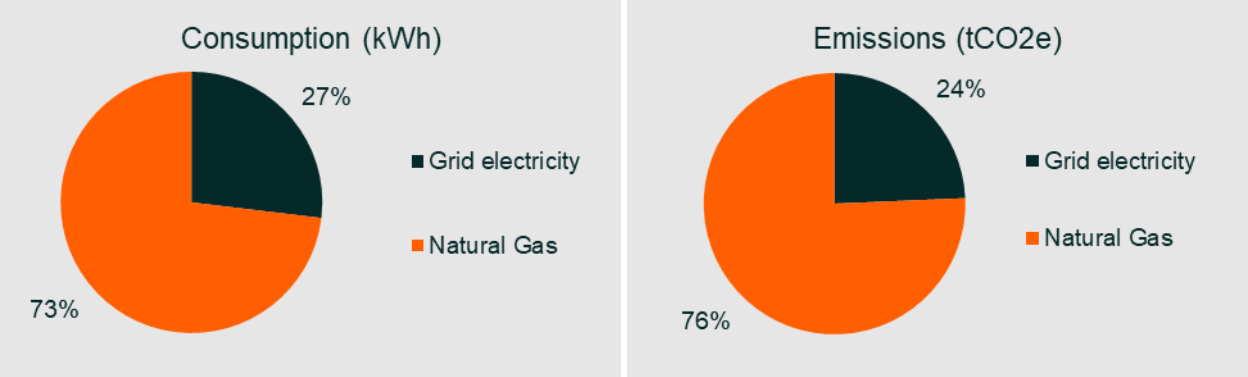

Figure 2 - Energy consumption and emissions by utility

Despite some buildings using electricity only, the majority of the energy consumed by the school is natural gas, which is used for space heating, hot water, and catering. Electricity consumed at the site is used for space heating in the modular buildings, air conditioning, point-of-use water heating, IT equipment, catering equipment, and plug-in appliances. As the emission factors for natural gas and grid electricity are currently similar, the emissions split is similar to that for the energy consumption.

Utility	TM46 Benchmark Consumption (kWh/m²)	Actual Consumption (kWh/m²)
Grid electricity	40	51 X
Natural Gas	150	138 ✓

Table 4 – TM46 benchmark comparison

The above table shows a comparison of the current energy consumption per m^2 compared to the typical energy consumption per m^2 as stated by the CIBSE TM46 Energy Benchmarks. The consumptions with a green tick ✓show the which buildings on the site are performing better than the typical energy benchmark, with the ones with a red **X** performing worse than the benchmark, and yellow ● is where sites have consumption the same or similar to the benchmark.

Electricity consumption at the school is slightly higher than the typical value for a primary school. This likely reflects the school having several buildings served by electricity only, rather than overconsumption of electricity. This is also supported by the school's gas consumption falling below the benchmark.

Monthly Consumption Profile

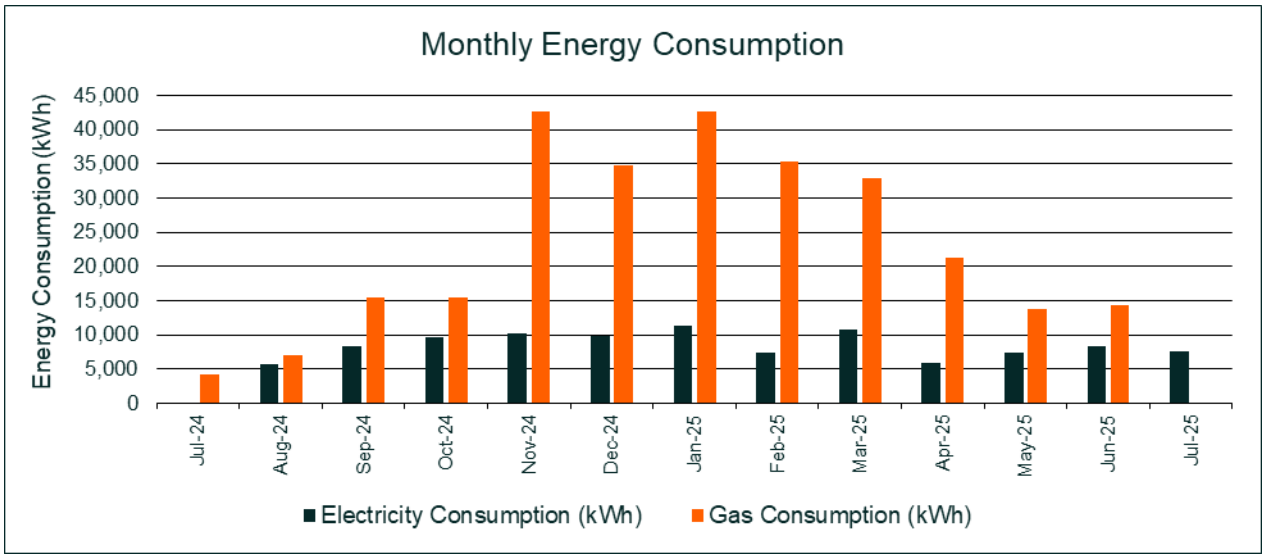

Figure 3 - Monthly energy consumption profile

Figure 3 shows how monthly electricity and gas consumption varies at the school over a 12 month period. Electricity consumption does not show seasonality as, despite some of the buildings being heated using electricity, the majority of electricity consumption is not weather dependent. For example, IT equipment will likely contribute a significant percentage to the total electricity consumption and is likely to remain fairly constant throughout term-time. Natural gas consumption does display seasonality, increasing in the colder months as the gas-fired heating system work to meet the increased space heating demand.

Heating Degree Day Analysis

Heating degree days describe how much (in temperature) and for how long in time the outdoor ambient temperature at a given location has fallen below a set base temperature, providing indication of how much work a heating system is expected to do. In months where there is a higher number of heating degree days, it would be expected that a heating system would have to do more work to maintain a given indoor space temperature, and therefore consume more energy.

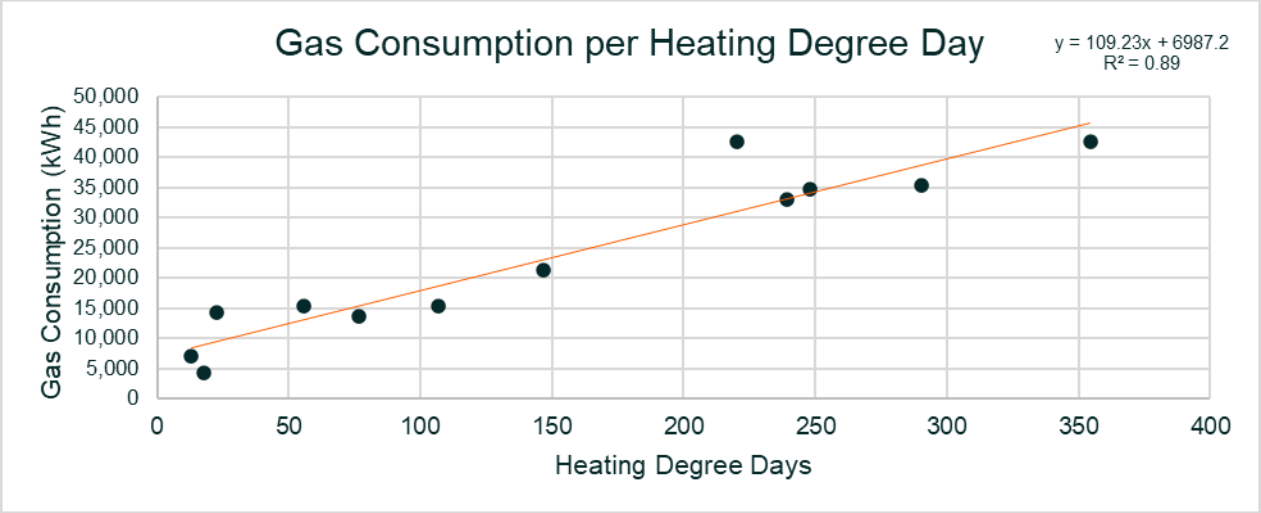

Figure 4 - Heating degree day linear regression analysis

Figure 4 shows a simple linear regression analysis conducted to study the relationship between the number of heating degree days and natural gas consumption for the school. The R^2 value of 0.9 indicates a strong positive correlation between the two variables. This suggests that the heating is well controlled. Hence, no heating control actions have been recommended. Nonetheless, it is important to regularly review heating schedules to ensure they align with building occupancy.

Green Schools Index Outcomes

The Greville Primary School's responses to the Greener Schools Index (GSI) have been compared to those from other schools. Figure 5 below shows the percentage of "yes" responses by both The Greville Primary School and the rest of the respondents by category of question[2].

It can be seen that The Greville Primary School is performing above average in all fields when compared to other schools who have completed the Greener Schools Index survey.

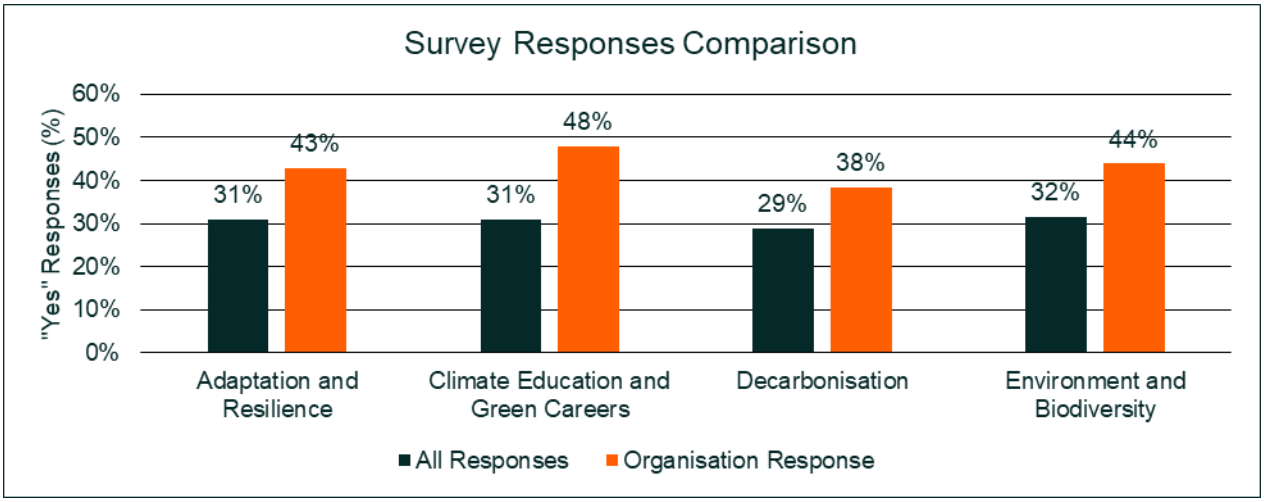

Figure 5 - Comparison of The Greville Primary School's Survey Reponses to Other Schools

[2] Data last refreshed 19th November 2025

Figure 6 shows how The Greville Primary School responded to questions relating to each field. The school's performance is similar across all fields. Hence, this report provides recommended actions across all categories.

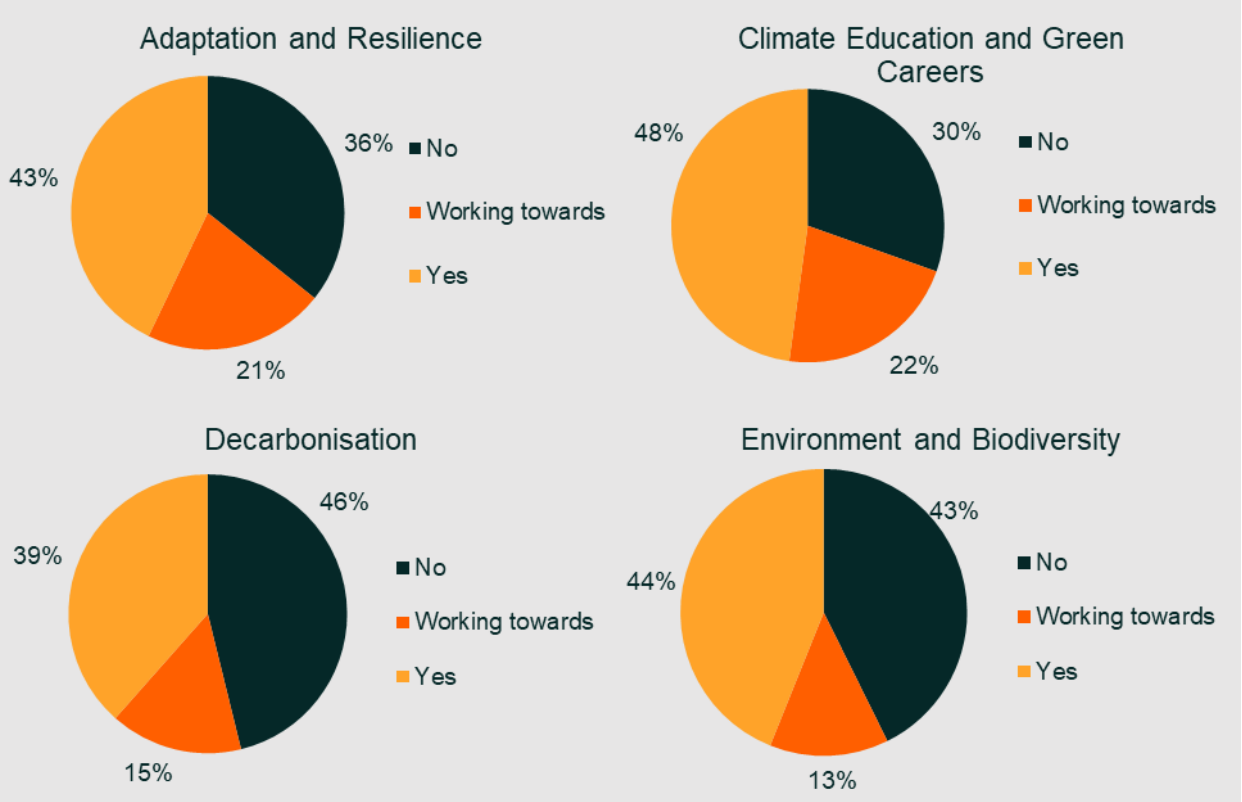

Figure 6 - The Greville Primary School responses by category

Net Zero Roadmap

Based on their responses to the Green Schools Index survey and findings from the site survey, The Greville Primary School's Net Zero Roadmap is set out below. This is a high level plan to reduce carbon emissions as close to zero as possible. This roadmap focuses on tackling Scope 1 and Scope 2 emissions.

Scope 1 emissions are direct emissions generated on-site from activities directly under the school's control. For example, using gas boilers for heating.

Scope 2 emissions are indirect emissions associated with purchased energy. They occur off-site at a power plant but are attributed to the reporting organisation as they result from its energy consumption. For example, a gas-fired power plant releasing greenhouse gas emissions in generating electricity that is then used on-site at the reporting organisation.

Measure

- Energy consumption baselines have been established by the school using the Eco Driver software. Detailed in this report is annual energy usage and carbon equivalent emissions aginst which progress can be measured.

Prepare

- Review options to reduce energy consumption and decarbonise. These include:
  - Pipework insulation
  - Building fabric upgrades
  - On-site renwables

Deliver

- Implement energy consumption and decarbonise actions
  - Utilise end - user engagement to ensure delivery of recommendations in audits or survey
- Measure progress using energy and carbon data and the Greener Schools Index.

This should be an iterative process with future consumption compared against the baseline to assess the efficacy of implemented emission reduction measures.

Next Steps

It is recommended that the school begin with low cost, easier to implement actions which can work alongside existing climate-friendly initiatives taking place at the school.

Firstly, the school, or local authority, can look into their existing energy supplier to see if and when they can move to a low carbon electricity supply. This may mean changing suppliers at end of contract.

Zenergi will be in contact in 2026 with the next set of dates for sustainable leadership training. Alongside this, the schools Eco Committee can work to drive behaviour change following from their school energy audit. This could be through students designing posters or through working to improve biodiversity at the school site.

Several actions relating to energy saving insulation and decarbonisation have been included in this plan. Due to budget constraints, it is recommended that the school begin by targeting the cheaper options such as purchasing valve jackets and installing solar film.

Progress Tracker

Action Name	Status / Progress	Dates	Notes
Zero carbon energy supply			
Sustainable leadership training			
Reduce energy consumption through behaviour change			
Improve biodiversity of the school site			
Install reflective solar film on south-facing classrooms			
Insulate heating pipework			
Scope 3 emissions carbon accounting			
Commission a heat decarbonisation plan			
Replace gas-fired catering equipment with electric equivalent			
Retrofit cavity wall insulation			
Conduct a feasibility study for on-site renewables			
End user engagement			
Commission a transport audit			

Table 5 – Progress tracker

Appendix 1: Action Details

Appendix 1.1. Zero carbon energy supply

Switching to a zero carbon or green energy supplier means choosing a provider that generates electricity from renewable sources such as wind, solar, or hydro power, rather than fossil fuels. This would reduce the carbon emissions associated with utilities that are used on site but produced elsewhere.

Making the switch involves reviewing your current energy contract and looking into certified green energy such as REGO backed tariffs. It can be helpful to work with an energy procurement team to identify the most suitable and cost effective option for your organisation.

Implementation date:	Contract end
Impact areas:	Decarbonisation, Climate Education and Green Careers
Resources:	Energy Procurement with Zenergi

Appendix 1.2. Sustainable leadership training

Sustainable leadership training equips school leaders with the knowledge and tools necessary to effectively manage energy and carbon emissions within their institutions.

The Greville Primary School has booked a place on Zenergi's half-day workshop, specifically designed for Sustainability Leads in schools and Multi-Academy Trusts (MATs). The training covers key areas such as energy measurement, budgeting, data analysis, stakeholder engagement, and the development of integrated carbon reduction plans. By aligning with the Institute of School Business Leaders (ISBL) Sustainability Standards, the workshop ensures participants are prepared to meet governmental sustainability targets.

Implementation date:	Jan - 26
Impact areas:	Climate Education and Green Careers
Resources:	Sustainability Lead Training: Introduction to Energy Management

Appendix 1.3. Reduce energy consumption through behaviour change

Reducing energy consumption through behaviour change involves encouraging simple no-cost actions such as adjusting heating setpoints, switching off lights and IT equipment in unoccupied rooms, and keeping doors and windows closed when the heating is on. During the site visit, the key opportunities identified were:

- Classroom boards can be turned off during break times or in unoccupied rooms
- Review maintenance policy to ensure that blown seals in double glazed windows are repaired quickly to retain heat (this was noticed in the modular building)
- Where possible, close doors and windows during the heating season to retain heat

These practical measures can decrease energy use, therefore contributing to the decarbonisation of a site, and can also serve as an opportunity to engage students as part of their climate education and through roles such as Eco Ambassadors (linked below). The Greville Primary School is already engaging students in environmentally-friendly behaviours through the Eco Committee.

Implementation date:	Feb - 26
Impact areas:	Decarbonisation, Climate Education and Green Careers
Resources:	WWF Green Ambassadors

Appendix 1.4. Improve biodiversity of the school site

The school have already used some of the outdoor space to create a vegetable garden and a bug hotel. It is recommended that the school's eco council expand their work across the site where possible. Additional projects could include:

- Tree planting
- Re-wilding areas of the school site
- Create a mini pond or bog garden (guidance available from The Wildlife Trust)

It is recommended that students are engaged in these projects where possible to contribute to their climate education.

Implementation date:	Mar - 26
Impact areas:	Environment and Biodiversity, Climate Education and Green Careers
Resources:	Wilder Schools project from the Surrey Wildlife Trust

Appendix 1.5. Install reflective solar film on south-facing classrooms

During the site visit, it was noted that south-facing classrooms in the main building can get too hot during the summer. Therefore, it is recommended that solar film is installed. Reflective solar film can reduce glare and heat gain through the classroom windows. This can reduce the need for air conditioning or plug-in fans during the warmer months and improve occupant comfort.

The school may wish to start install solar film in one of the classrooms as a test, and install film across the run of classrooms if that was found to be effective.

Implementation date:	Mar - 26
Impact areas:	Decarbonisation, Adaptation and Resilience

Appendix 1.6. Insulate heating pipework

In general, heating pipe in the plant rooms is reasonably well insulated, however, there are a number of exposed heating pipe valves which would benefit from insulation to minimise heat loss. Valve jackets can be purchased that can be fitted by site maintenance staff to avoid additional installation costs.

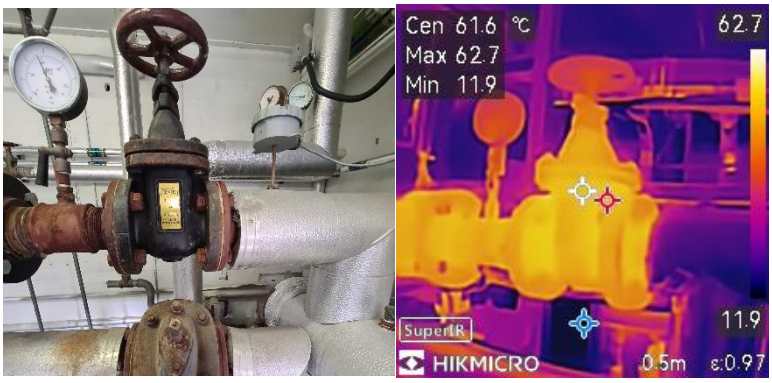

Figure 7 - Example of an uninsulated valve in the main plant room

Implementation date:	Mar - 26
Impact areas:	Decarbonisation

Appendix 1.7. Scope 3 emissions carbon accounting

Scope 3 includes all indirect emissions that are not included in Scope 2 (i.e. are not from the generation of purchased energy). Scope 3 covers greenhouse gases emitted both upstream in an organisations supply chain and downstream in material waste and end of life.

Reporting on scope 3 emissions can highlight areas where an organisation can reduce its indirect carbon emissions by allowing for informed decisions to be made about suppliers. Guidance on Scope 3 reporting is provided in the Greenhouse Gas Protocol.

Implementation date:	May - 26
Impact areas:	Decarbonisation
Resources:	Speak to Zenergi about carbon accounting Greenhouse Gas Protocol - Scope 3 Calculation Guidance

Appendix 1.8. Commission a heat decarbonisation plan

A Heat Decarbonisation Plan provides a costed strategy for the transition away from fossil fuel heating systems. The process typically involves an energy and carbon audit of the site to capture current performance and opportunities for decarbonisation and energy savings.

Implementation date:	Oct - 26
Impact areas:	Decarbonisation
Resources:	Heat Decarbonisation Plans with Zenergi

Appendix 1.9. Replace gas-fired catering equipment with electric equivalent

Replacing the gas-fired catering equipment with electric equivalent will reduce the gas consumption at the school. Whilst this will be replaced with electricity consumption, this comes with the opportunity to move to renewable energy both directly at the school site and via the ongoing decarbonisation of the UK electricity grid.

In general, electric appliances are also more efficient than gas alternatives and require less ventilation meaning that energy consumption for air movement and heating could also be reduced.

Unless the school has a specific project for decarbonisation, it is recommended that the units are replaced towards the end of life. The date of October 2026 can be seen as an opportunity to review the existing stock and develop a plan for replacement.

Implementation date:	Oct - 26
Impact areas:	Decarbonisation

Appendix 1.10. Retrofit cavity wall insulation

Based on the building age and brick pattern, it has been assumed that the main building consists of uninsulated cavity walls. It is recommended that these are insulated to reduce heat losses and improve occupant comfort.

This is likely to be a more expensive action and may be limited by budget. However, should the school consider a project of decarbonisation in the future, reducing heat losses through the building envelope is an important consideration when upgrading boilers to heat pumps as it will likely reduce the size of heat pump needed.

Implementation date:	Oct - 26
Impact areas:	Decarbonisation

Appendix 1.11. Conduct a feasibility study for on-site renewables

On-site renewable electricity generation reduces the site's carbon emissions associated with energy generation and improves energy security of the site by reducing reliance on the national grid. Examples of on-site renewables include solar photovoltaic (PV) panels and small scale generation from wind.

A RIBA Stage 2 feasibility assessment can identify the most appropriate generation method for the site. A feasibility study should deliver a detailed evaluation of the estimated system size, energy generation and

carbon savings, a breakdown of estimated capital cost, estimated payback period and carbon savings over the lifetime of the chosen system.

Implementation date:	Nov - 26
Impact areas:	Decarbonisation, Adaptation and Resilience
Resources:	On-site Renewable Feasibility with Zenergi

Appendix 1.12. End user engagement

To ensure that energy saving opportunities identified during audits or surveys are effectively acted upon, Zenergi offers tailored end user training for schools and other organisations. Delivered in a workshop format, this training is led by a engineer who reviews the key findings of the site survey with site staff and other relevant stakeholders.

The session provides a valuable opportunity for participants to ask questions, deepen their understanding of energy saving measures, and receive practical guidance on how to implement them. In addition to site specific recommendations, the training also covers general principles of energy awareness, empowering school staff to manage energy use more effectively on an ongoing basis.

Implementation date:	Nov - 26
Impact areas:	Climate Education and Green Careers
Resources:	Speak to Zenergi about end user engagement

Appendix 1.13. Commission a transport audit

A transport audit can help to establish current carbon emissions from associated with travel and provide opportunities to reduce them. A desk-based study can delivery the associated energy, cost, and carbon savings of implementing the recommended measures.

Implementation date:	Mar - 27
Impact areas:	Decarbonisation, Environment and Biodiversity
Resources:	Speak to Zenergi about a transport audit

Appendix 2: Limitations and Accuracy of Information

Whilst every effort has been made to ensure the information and figures provided in this document are accurate, please be aware that this is influenced by a number of factors including the accuracy of data or information provided by The Greville Primary School. Zenergi (the Consultant) actively works to minimise inaccuracies; however, at times these can be unavoidable. Where the Consultant is aware of issues with the quality of data or pertinent information and assumptions need to be made, this will be highlighted within the report.

The estimated costs and carbon savings provided in the report are indicative, often based on the average cost of equipment and installation. It should be noted that costs can vary widely according to the technology, manufacturer, installer, and site-specific conditions, particularly if a recommendation relates to a large capital project. It is strongly recommended that an investment-grade audit is undertaken and that a minimum of three quotes are secured prior to making an investment decision, and payback timescales are calculated based on the preferred supplier quotation.

It is expected that recommendations made within the report will go through the The Greville Primary School's own validation and approval process prior to implementation.