Education Whitepaper

Get Schooled!

Pioneering Sustainable Practices In The Education Sector

zeelo dolce schools catering TG ESCAPES modular eco-buildings Bywaters recycling made easy MY CARBON

Contents

Foreword

As we approach a critical juncture in the fight against climate change, it is becoming increasingly clear that sustainability must become a top priority for all sectors of society. This includes the education sector, which plays a crucial role in shaping the minds and values of future generations.

While the current state of sustainability in the education sector in the UK may be cause for concern, there is also an opportunity to make positive changes. Education institutions in the UK are responsible for a significant percentage of the country's emissions, with tertiary education alone accounting for around 2.3% of the UK's overall carbon footprint, and face challenges such as limited resources and outdated facilities. However, by taking steps towards sustainability, schools and universities can not only reduce their carbon footprint, but also educate and inspire. By prioritising sustainable practices and incorporating sustainability into the curriculum, education institutions can create a brighter future for both the environment and young people.

Fortunately, there are opportunities for schools to become more sustainable and inspire others to do the same. Making a simple change can make a big difference, whether it's the way a school is built, the resources they use, how they transport students, or their waste disposal practices.

Drawing on the insights and experiences of experts in the field, it provides practical guidance for schools to reduce their carbon footprint in a variety of ways. But this white paper is not just a technical guide, it is also a call to action. It is becoming more apparent that change happens now, not later. By embracing the ideals of sustainability, schools have the opportunity to make a positive impact on the environment while also shaping the future.

We hope that this discussion will be a valuable resource for those who are committed to creating a sustainable future for all.

Together, we can make a difference.

Introduction

As the world becomes increasingly aware of the need for sustainability, it's no surprise that this way of thinking is also infiltrating the education system. More and more schools are beginning to adopt sustainable practices, whether it's in the way they operate or the curriculum they teach. But why is sustainability in education so important? And what does it actually look like in action? This report will explore those questions and more, give you a better understanding of why sustainability matters in education and a look at various practices and industries that can support ongoing sustainable development within your school.

There are many ways to reduce your schools carbon footprint. One way is to reduce energy consumption. You could do this by ensuring that all lights and appliances are turned off when not in use as just one example. You can also encourage students and staff to ride share or use public transportation.

A few months ago, we set about pulling together a team of experts to raise the profile of the problems surrounding sustainability in schools. Schools are, after all, the strongholds of future generations who will be called upon to keep the world turning for years to come.

"a better understanding of why sustainability matters in education"

The response was excellent and we are extremely grateful for all the contributors that are working with; the most encouraging thing about each of these contributions is the overwhelming determination for a joint approach to solving the problem. This helped shape our aim for this thought leadership: to inspire you by taking an innovative approach to one of today's toughest problems.

We would like to extend our gratitude to our contributors, including MyCarbon, Bywaters, Dolce Schools Catering,

We need everyone's input to reduce the carbon footprint of the education sector

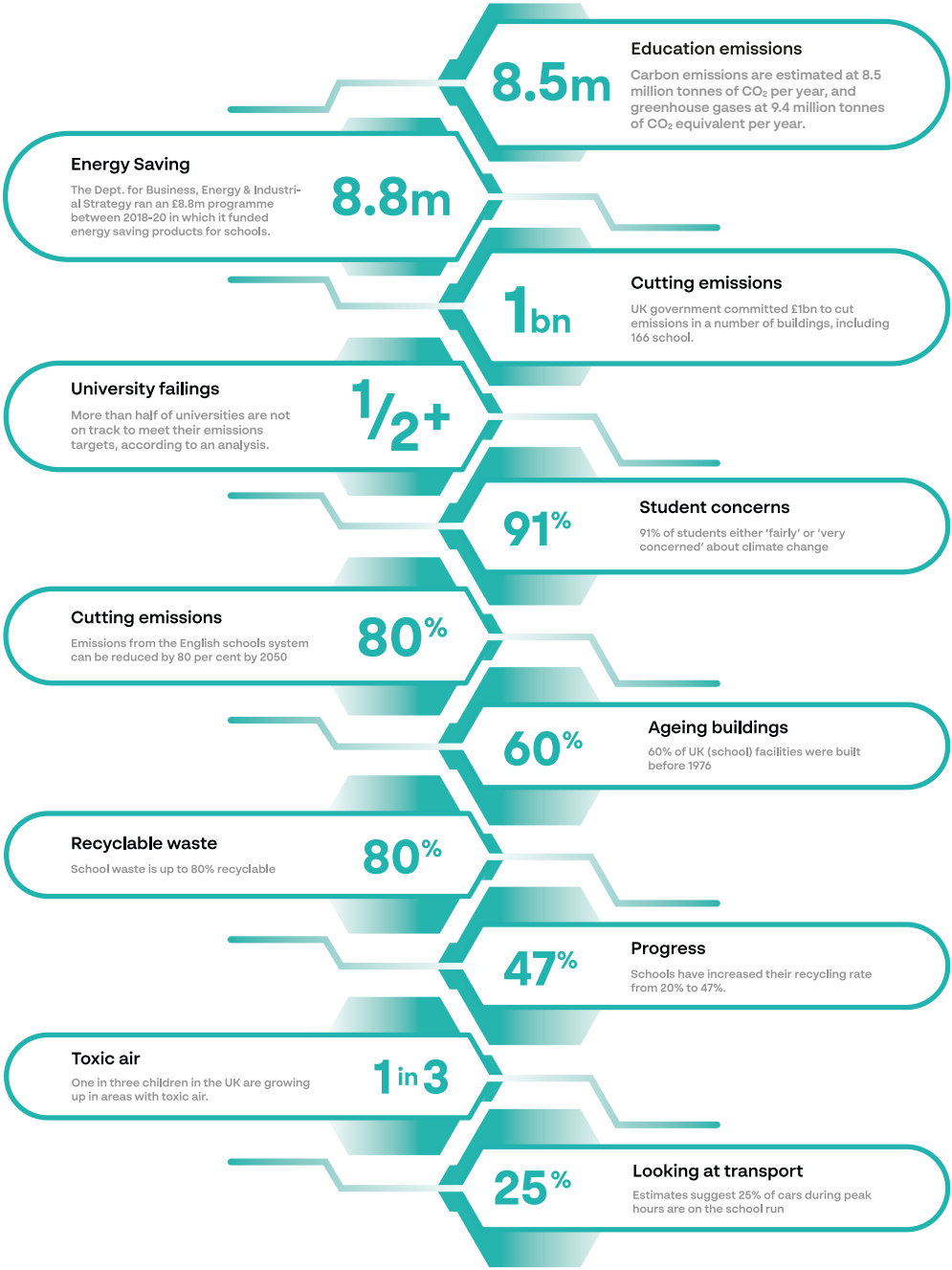
and TGEscapes for their support and expertise in the development of this whitepaper.

We hope that you find this useful, and we'd love for you to join us on our journey to a more sustainable future. To succeed, we need all stakeholders working together: local authorities, education authorities, employers, property developers, landowners and so many others. We need everyone's input to reduce the carbon footprint of the education sector and create a sustainable world for future generations to come.

I'm sure all of our contributors, including myself, look forward to hearing your feedback.

Join us on a journey towards a cleaner, greener and brighter education sector.

Luke Ryan, General Manager - UK Education, Zeelo


8.5m
Education emissions
Carbon emissions are estimated at 8.5 million tonnes of CO_2 per year, and greenhouse gases at 9.4 million tonnes of CO_2 equivalent per year.
Energy Saving
The Dept. for Business, Energy & Industrial Strategy ran an £8.8m programme between 2018-20 in which it funded energy saving products for schools.
8.8m
1bn
Cutting emissions
UK government committed £1bn to cut emissions in a number of buildings, including 166 school.
University failings
More than half of universities are not on track to meet their emissions targets, according to an analysis.
1/2+
91%
Student concerns
91% of students either 'fairly' or 'very concerned' about climate change
Cutting emissions
Emissions from the English schools system can be reduced by 80 per cent by 2050
80%
60%
Ageing buildings
60% of UK (school) facilities were built before 1976
Recyclable waste
School waste is up to 80% recyclable
80%
47%
Progress
Schools have increased their recycling rate from 20% to 47%.
Toxic air
One in three children in the UK are growing up in areas with toxic air.
1 in 3
25%
Looking at transport
Estimates suggest 25% of cars during peak hours are on the school run

Framing the Challenge

Incorporating sustainability into the curriculum and operations of educational institutions is crucial in fostering a generation that is environmentally conscious and equipped to tackle the challenges of a rapidly changing world.

But What Is Sustainability?

Sustainability has been defined in many ways, but the most common definition is that it meets the needs of the present without compromising the ability of future generations to meet their own needs.

it's essential that students learn about sustainability

In order for sustainability to be achieved, three key pillars must be addressed: environmental, social, and economic. Environmental sustainability refers to practices that aim to conserve natural resources and reduce humanity's ecological footprint. Social sustainability addresses issues such as human rights, social justice, and equity. And finally, economic sustainability looks at how we can maintain a healthy economy while still meeting our environmental and social goals.

Why Do We Need To Consider Sustainability In Schools?

The concept of sustainability is important in the education sector for a variety of reasons. First, it helps students understand the interconnectedness of all living things and the importance of protecting this world that we all call home. It also encourages them to think critically about the impact of their actions on the planet and its resources. As shown above, schools, colleges and universities are a major contributor to our carbon footprint and have the ability to drastically reduce that impact.

Sustainability means meeting present needs without compromising future generations. It requires addressing environmental, social, and economic issues.

Teaching sustainability in schools is crucial for protecting our planet and preparing future generations. Students need to learn about sustainability and how to live sustainably.

Most schools only cover the basics of conservation and

recycling. To take sustainability to the next level, use this report with real-world examples and case studies to create an eco-friendly and sustainable plan.

Sustainability Framework

Nobody can deny that having a sustainability plan in place is an effective way to reduce waste and energy consumption in your school, resulting in lower costs and less harm to the environment. Implementing new and dynamic ways of thinking about how your school uses energy, manages assets, and promotes awareness of sustainable practices can help you reduce costs, conserve the earth's resources, and teach students how to be better stewards of their environment in the future. Sustainability initiatives, like those outlined in this report, will give you all the information you need to make thoughtful decisions about what steps to take next, and more importantly, how they will aid in the reduction of your organisation's carbon footprint.

More than 70% of the actions identified by participating schools were low or zero cost.

MY CARBON

How to Measure your School's Carbon Footprint

MyCarbon has been actively involved in providing carbon footprint measurement and reduction services to schools around the country, helping them to implement sustainable practices and reduce their ongoing environmental impact. Their contribution here highlights the significance of accurately measuring sustainability and providing valuable insights on how to reduce carbon emissions and achieve a more sustainable education sector.

Solutions Through Measurement

Understanding the amount of greenhouse gas (GHG) emissions your school produces from operations like heating the building, staff and student transportation, or even waste production can be a great place to start your sustainability journey. But first things first. You can't manage what you don't measure. Accurate measurement of greenhouse gas emissions is necessary for your school to be able to monitor progress. These measurements are necessary to determine the extent of the emissions you produce, establish emission reduction goals, and monitor progress ag

A study by Odell, Rauland and Murcia (2020) examined how schools may undertake a carbon audit of their energy use and subsequent implementation of strategies to minimise their carbon emissions to effectively cut both their operational expenses and emissions. The study showed that schools reduced their carbon emissions on average by 20% on a per student basis and saved an average of 15% in costs. More than 70% of the actions identified by participating schools were low or zero cost.

Measurement Standards

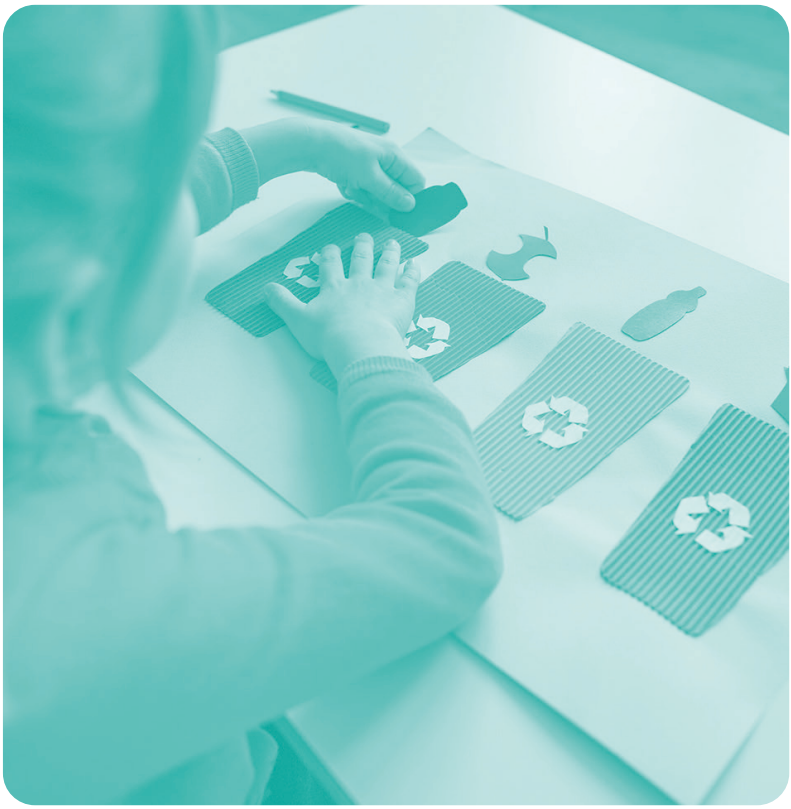
The Greenhouse Gas Protocol is the main global standard for public and private sector entities to measure GHG emissions. In 2016, 92% of Fortune 500 companies responding to the CDP (non-profit organisation that helps companies & cities disclose their environmental impacts) used GHG Protocol directly or indirectly through a program based on GHG Protocol (GHG Protocol, 2022). According to the GHG Protocol Corporate Standard, GHG emissions are classified into 3 scopes.

What are the Scopes?

Scope 1:
Emissions are direct emissions from company-owned or controlled resources.

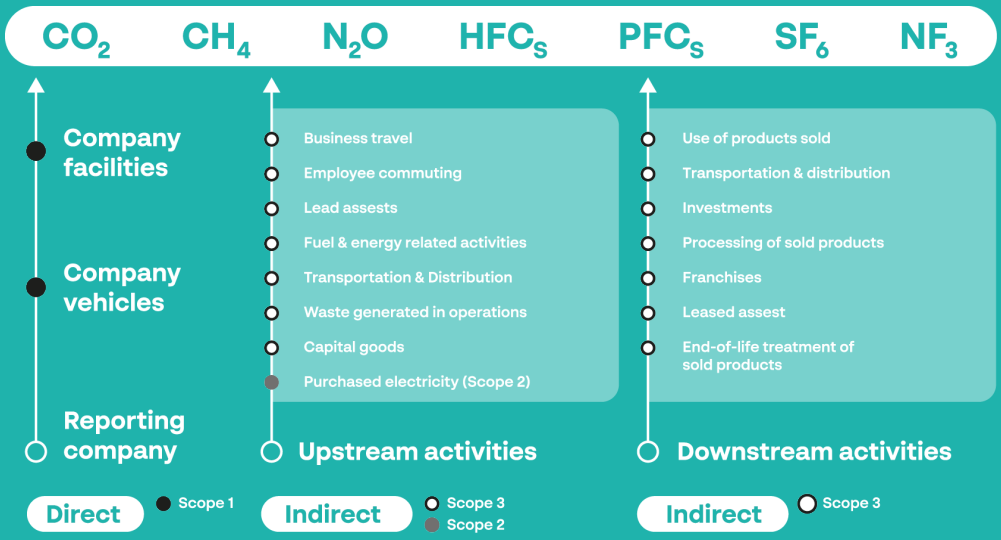
Scope 2:
Emissions are indirect emissions from the generation of purchased electricity

Scope 3:
Indirect emissions not included in scope 2. Not all Scope 3 categories in the diagram on the next page will apply to your school.



Types of scope:

Scopes	Emissions Source	Where to Find Activity Data
Scope 1	Stationary sources of combustion e.g., emergency electricity generators, Bunsen burners, or natural gas consumption. Mobile sources of combustion e.g., school fleet of vehicles owned the school. Fugitive emissions from air conditioners and refrigeration units	Records and invoices for fuel consumption. Purchase & top-up records for refrigerants
Scope 2	Purchased electricity	Electricity bills/meter readings
Scope 3	Purchased goods e.g., furniture, books, stationery, IT equipment, food, electrician services etc. Waste e.g., paper and food waste. Staff commuting. National/International travel for faculty, staff and students.	Water bills, financial records for goods and services purchased by the school, paper purchase and recycling records, etc.



How Should a School Conduct a Carbon Audit?

There is a five-step process involved for calculating GHG emissions. Step 1-3 is performed by the school while steps 4-5 are performed by the consultancy service.

Once you have identified and collected the data, the hard part is over! The environmental consultancy service, such as MyCarbon, will calculate your emissions using the data you have provided by applying the relevant emissions factors (multipliers that turn your activity data into a carbon footprint). This will produce your total carbon footprint measured in tonnes of carbon dioxide equivalent (tonnes CO2e). The results will then be delivered to you in a report detailing your emissions by scope and each individual source. This will allow your school to identify your highest source of emissions and create solutions to minimise that impact, with support from your consultancy service, of course.

For the carbon you cannot eliminate, your school could consider purchasing carbon credits, with the proceeds going to developing nations to support their efforts in climate action. You can invest these carbon credits in the educational sector e.g. to buy solar panels for a school.

References: Odell, P., Rauland, V. and Murcia, K., 2020. Schools: An Untapped Opportunity for a Carbon Neutral Future. Sustainability, [online] 13(1), p.46. Available at: https://www.mdpi.com/2071-1050/13/1/46 [Accessed 30 August 2022]. Ghgprotocol.org. 2022. Standards | Greenhouse Gas Protocol. [online] Available at: https://ghgprotocol.org/standards [Accessed 30 August 2022].

Leah McLaughlin
Carbon Consultant, MyCarbon

The Solution:

Four Paths to a Greener Future Of Education

The current and precarious state of our global climate is (and should be) of great concern to individuals and organisations around the world. Rapid consumption of fossil fuels, increased greenhouse gas emissions and depletion of finite natural resources at unprecedented levels are contributing to a major global climate crisis.

One approach to highlighting sustainability in this modern age is through social movements and dynamic new green initiatives, but we have an even better instrument at our disposal: educating the next generation (and those guiding them) on how to live both conscientiously and sustainably, and by extension, shaping the environment in which they do so.

Here at Zeelo we believe that a joint approach is probably one of the wisest and most sustainable ways to tackle awareness issues pertinent to sustainability in schools. Helping students, teachers and external stakeholders to understand the benefits of living more sustainably and acting on their environmental stewardship impulses early may well be a significant stepping stone to achieving global sustainability goals.

To that end we have sourced a team of experts from several key industries to help us raise the profile of problems surrounding sustainability in the education sector. Once everyone is on board, specific targeted solutions can be implemented. These might include a greater focus on recycling campaigns, energy efficiency initiatives, introduction of environmentally friendly construction or transportation services, development of a school garden, or any number of other forward thinking ideas.

Once everyone is on board, specific targeted solutions can be implemented.

Within this paper you will find leading contributions from the construction, energy, waste management, transportation, and procurement sectors with key insight into ways in which a school can manage and (hopefully) reduce its carbon footprint; thus ensuring a greener and more sustainable future for the next generation.

1. Waste Management

Bywaters waste management has been actively involved in creating a sustainable education sector by providing innovative waste management solutions, promoting recycling, and minimising waste to landfill. Their contribution here aims to highlight the importance of sustainable waste management practices in schools and provides valuable insights on how to achieve them.

An audit of your school's waste management strategy is essential to the growth of your sustainability targets. Every child is different; therefore, so is their way of learning. An audit will highlight opportunities you may have missed. Waste audits help to identify areas of improvement across facilities. These assessments allow for targeted improvement plans to be created, based on the specific issues identified within each area. One of the common mistakes identified is bin placement. Regularly schools and colleges will provide small single-use bins within classrooms, for all waste, this discourages recycling practices, even reducing compliance in areas where multiple waste streams are available.

Planning New Action Steps In Order To Improve Waste Management

Proper waste management is essential for schools to maintain a clean and healthy environment. However, promoting waste management can be challenging, especially for young students. One way to

make the process more effective is to use colour-coded signage. By using different colours to represent different types of waste, students can quickly and easily identify the correct bin for each item. Vibrant signs and bins will make it more likely that students will remember the classification system, making it easier for them to keep the school clean. In addition, using cheerful colours can help connect the signage with positive emotions, making it more likely that students will engage with your campaign. Some of these principles can be found in studies of 'colour psychology', which highlights how colours can connect neural pathways in the brain. An audit of your current signs and how students interact with them can assist you in making the best choice for your school.

It is encouraging to see recycling rates improve in schools where students take on the role of Green Champions.

These students not only help to educate their peers about the importance of sustainability, but they also set an example through leadership. School administrators usually appoint Green Champions, but their classmates can also elect them. In either case, these students typically have a strong interest in environmental issues and a commitment to making a difference. The Green Champions provide the perfect outlet to communicate the findings of waste audits to other students, helping to increase engagement. As Green Champions, they help to raise awareness about recycling and other sustainable practices and often work with school staff to implement new policies and programs. As a result, their efforts help to make schools more sutainable and reduce waste.

It is encouraging to see recycling rates improve in schools where students take on the role of Green Champions.

One of the most critical aspects of school waste management is setting an excellent example for students. Teachers, school meal supervisors and other staff members must be diligent about sorting their waste correctly and disposing of it in the correct bins. They should also avoid generating unnecessary waste, by bringing reusable coffee mugs or water bottles from home. Additionally, it is essential to teach students how to sort their waste correctly. This can be done through lessons, posters or other visual aids placed around the school, or even announcements over the PA system. By leading by example and providing clear

instructions, teachers and other staff members can help students make the right decisions.

Why Are Waste Management Audits So Important For Schools?

Audits help identify areas where improvements can be made and provide valuable insights into the overall efficiency of your waste management system. By studying your waste management regularly, you can be confident that your school is doing everything possible to reduce its environmental impact. In addition, surveys can also help to encourage students and staff to adopt more sustainable habits. When everyone is aware of the importance of waste management, it becomes easier to make positive changes. Ultimately, by investing in regular audits, you can help to ensure that your school is a leader in sustainable waste management.

Bywaters deliver sustainable waste management services to some of the UK's most prestigious educational institutions. From food and plastic packaging to paper and WEEE, our recycling service effectively manages education waste. We work closely with establishments to help them save money, divert waste from landfill, and

Our auditing process

1. Our sustainability team reviews your waste data and current services

2. A Green Guru will visit each site to carry out an audit to supplement your business waste data

3. We look at your bin placement, space restrictions and identify areas for innovation

4. Your dedicated Green Guru develops a tailored waste management strategy that takes all of your data into account

5. They support your business during implementation and ensure the strategy gets results

enhance their sustainability. Our team of dedicated Green Gurus offer environmental consultancy to clients, assisting them with creating a recycling strategy which fosters awareness of recycling and sustainability in schools and universities. This involves arranging waste awareness days to educate students and teaching professionals on sustainable waste management and conducting regular audits to ensure targets are being met.

With decades of experience in providing waste management solutions to educational institutions, Bywaters can help you improve your waste practices, and reduce your environmental impact while also keeping your budget in mind.

Ben Beagley,
Head of Marketing and Bids, Bywaters

2. Construction

TG ESCAPES
modular eco-buildings

TG Escapes has been actively involved in creating sustainable schools by providing modular eco-buildings that incorporate sustainable construction practices. Their contribution here provides valuable insights on how to design and build sustainable schools.

According to a parliamentary research briefing, the UK construction industry contributes around 6% of the UK's GDP, while the UK Green Building Council (UKGBC) estimates that 10% of the UK's carbon emissions can be directly attributed to construction. The recent government net-zero 'Heat and Buildings' strategy estimates that buildings and their heating account for 30% of total UK emissions.

The construction sector therefore causes proportionately far more carbon emissions than it contributes to GDP. The education sector makes up 17% of all construction projects, split 65% on school and college projects and 35% on university projects, with an estimated 35% being publicly funded.

Net-Zero in use or in construction?

In 2008, the UK became the first major economy in the world to pass into law international commitments to end its contribution to global warming by 2050. The Climate Change Act 2008, and its 2019 amendment to comply with the 2016 Paris Agreement for Climate Change, commits the UK to bringing all greenhouse gas emissions to net-zero. Any emissions that cannot be prevented by this time must be balanced by schemes to offset an equivalent amount of greenhouse gases, such as planting trees or using technology like carbon capture and storage.

During the last decade, the signs of climate change have become increasingly widespread and the term net-zero carbon has entered mainstream awareness and language. However, it has yet to be categorically defined and means different things to different organisations, corporate and governmental, and civil groups and individuals. In the context of the built environment, it is used to describe both buildings that are net-zero carbon in operation and those that are net-zero carbon in their construction.

Why the construction industry needs to act now

Globally, the built environment sector is currently responsible for almost half of greenhouse gas emissions so, clearly, if the Government's commitment is to be achieved then the British construction industry needs to urgently address the issues of energy-efficient building design and construction processes within a net-zero context. However, the concept of a net-zero carbon building is subject to differing interpretations and meaning. Some focus purely on the energy consumed during a building's day to day use, some on the creation of the structure and others still on the entire life span of a building from the laying of the first foundation through to its demolition and removal.

The way forward

At present, the UKGBC stipulates that the primary priority in achieving net-zero operational energy efficiency is to reduce both the demand for and consumption of energy: that which is used should be calculable and disclosed. With regards to net-zero carbon construction, a whole life carbon assessment should be undertaken (and disclosed) and all embodied carbon impacts from the products and construction methods used must be measured and offset. In both the use and construction of a net-zero building, every effort must be made to utilise renewable energy supplies (both on and offsite) and any remaining carbon should be offset using a recognised framework, again to be publicly disclosed.

In August 2020, The Government Property Agency issued a paper entitled "Net Zero and Sustainability: Design Guide." Although the document is aimed specifically at the Government's own building estate, it has drawn heavily on the UKGBC framework to identify the steps and processes that a project team should undertake to deliver a net-zero building. Until similar papers are published for the private construction sector, it is probably a good indicator of what should be expected.

Net-zero carbon construction

Natural, sustainable materials should be considered first, avoiding high embodied carbon materials wherever possible and still ensuring longevity. Efforts should be made to use less materials generally and to reduce the weight of dead loads, thus minimising structural weight and reducing foundation load and size. Transportation to the build site and onsite construction should be reduced by utilising offsite, modular construction. The government has identified that these Modern Methods of Construction are faster and use up to 67% less energy. Waste and site works should be minimised and the construction materials and methods used should allow for future demounting, replacement or reuse of the structure or its elements.

Whilst the government has set these targets and guidelines, budgetary pressures mean that many new school building projects are failing to be carbon neutral. Inevitably there is an incremental cost to adopting renewable energy and offsetting traditional construction techniques also brings with it a cost. Budget holders often have to take the cost out of a building designed to be net-zero and things like solar panels can be the first to go.

Perhaps the most significant impact of having a new building on a school site is for the students who can watch as it goes up. With a traditional build this can be a messy and lengthy process but using modular construction the students can see the components coming in over a short period of time, and learn how a building fits together. This is especially relevant when using a modular timber frame construction as the students learn about the materials and techniques that are used to make a more sustainable building.

Using timber for schools

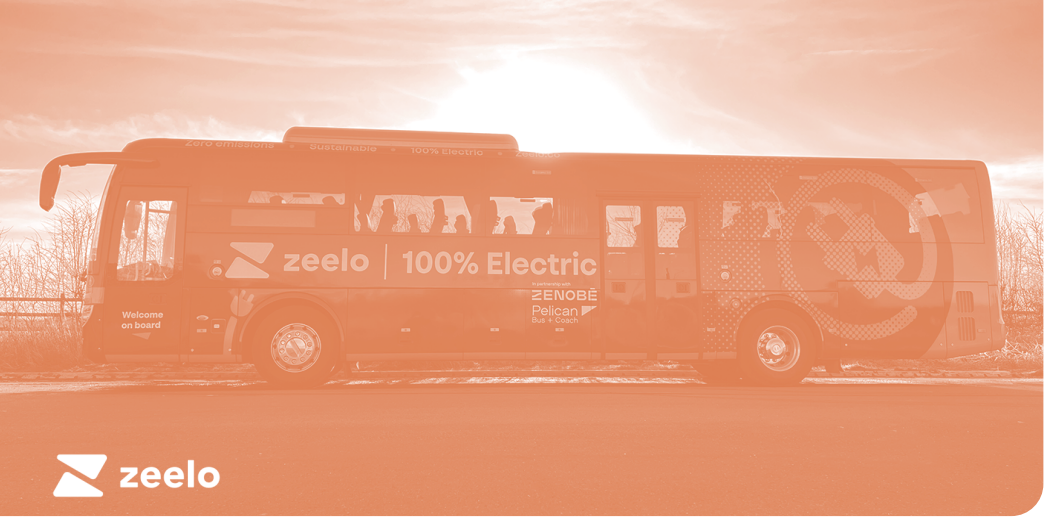
As timber is a natural product that sequesters carbon as it grows, it is a highly suitable material for reducing carbon during the product stage. Each square metre of timber frame removes and stores over 12 Kg of CO2 during the construction phases. While it is unlikely that the whole build could become negative in terms of carbon just by using a timber frame, it is an essential factor in achieving a calculated net-zero build.

Each square metre of timber frame removes and stores over 12 Kg of CO2 during the construction phases

Timber classrooms have been proven to reduce stress among students versus traditional classrooms, as evidenced by a 2007 study, Schools without Stress, by Weitzer Parkett and proHolz of Austria. As well as reducing stress, biophilic design can enhance sensory and motor development by using elements from the living, natural environment which can help inspire curiosity, imagination and discovery in students. Furthermore, the use of natural materials can reduce fatigue, while cognitive ability and emotional wellbeing can be increased by the inclusion of nature in learning environments.

The use of a timber structure makes achieving net-zero easier and more economical, which is often the critical factor in the educational market. It also emphasises the sustainable nature of the development and has the benefit of being visible to all stakeholders including students, parents, staff and governors. It shows that the decision makers in the school are thinking about the future well-being of all.

Mark Brown, Consultant
TG Escapes Modular Eco-Buildings



3. Transportation

We know that air pollution is a serious problem, and one that is especially harmful to children. A 2020 study found that air pollution levels around schools are significantly higher than previously thought, and that a shift away from driving cars to riding buses could make a big difference in reducing these levels. This study, conducted by the University of Surrey in the UK, found that concentrations of nitrogen dioxide (NO2) and particulate matter (PM) were up to 60% higher than what had been previously recorded by official monitors.

These pollutants are known to cause a range of health problems, including respiratory infections, asthma, and even cancer. While there are many factors contributing to the problem of air pollution around schools, the study found that traffic was the biggest contributor. In particular, diesel-powered vehicles were responsible for much of the NO2 pollution, while petrol cars were the main source of PM generation.
Studies by Asthma + Lung UK have shown that more than a quarter of all British schools and colleges are located in areas with dangerously high levels of pollution. In particular, studies have indicated that 8,549 educational institutions (27% of all schools and colleges) are located in places where fine particulate matter (PM2.5) levels are beyond the World Health Organization's guidance guidelines (WHO).

According to data released by Mobilityways, in the UK, annual commute-related CO2 emissions total 18 billion kg with the morning and

More than a quarter of all British schools and colleges are located in areas which have dangerously high levels of air pollution.

evening school run accounting for 25% alone. The above makes for a pretty staggering read, but it is not all doom and gloom. Schools, colleges and universities around the country are looking for new and sustainable ways in which students, parents and staff can travel to school to cut down on carbon emissions.

The fuel efficiency of a standard passenger car carrying a single individual is 25 passenger miles per gallon, while a conventional bus at full capacity of 70 (including seated and standing passengers) achieves 163 passenger miles per gallon. Consequently, these fuel savings result in proportional reductions in CO2 emissions. For every 100 passenger miles, a solo passenger car emits 40kg of CO2, compared to just 6.3kg for a fully occupied bus.

In recent years, schools, colleges and universities around the world have started to take a more proactive approach towards sustainability by developing transport plans that prioritise eco-friendly modes of travel. By encouraging students, teachers, and parents to cycle, walk or use public/shared transportation, we are seeing reduced congestion around campuses, lowering emissions, and placing a greater emphasis on sustaining a healthier environment. These sustainability-led transport plans are also having a real impact on behaviour by educating students about the importance of making more sustainable choices.

To effectively reduce car usage and improve air quality around campuses,we believe that schools, colleges and universities must focus on taking action in three key areas.

1. Service design and parent/student engagement

To change behaviour, the new option must be convenient and meet parents and students needs. Taking the time to design more efficient and streamlined routes, identifying optimal pick up stops and calculating the distance a rider would need to walk to get to their collection point can make a significant difference. This can all be achieved in consultation with parents, students and other stakeholders and actually adapt to fit around changing schedules.

2. Flexibility and piece of mind through technology

The introduction of real time flexible ticketing solutions for example, can allow parents and students to pay for transport on an as-needed basis, rather than having to commit to a full annual or termly pass pass. Zeelo's mobile app allows parents/students to manage their bookings, view schedules, and receive notifications about service disruptions, all with their own convenience in mind. We offer a live tracking system that enables a user to monitor the progress of the rider journey in real-time, giving them peace of mind and reassurance during every step of the journey. This technology has been instrumental in forging trust between parents and shared transport providers, as it allows them to feel confident that their child is safe and well-cared-for during their journey. This assurance can be a powerful motivator for parents to make the shift away from driving their children to school in a car, reducing congestion on the roads and improving air quality.

3. Transition to Electric Vehicles

But the most important action that schools, colleges and universities can consider is a transition to electric vehicles as part of their efforts to reduce air pollution. Moving services to Net Zero and delivering with Electric vehicles not only will remove all tailpipe emissions but also will be even more compelling in influencing the behaviour of parents and students to choose the shared transport service

How are Zeelo Paving The Way For Cleaner Air Around Schools?

A Zeelo bus typically removes 30 cars from the road. With this in mind, schools, colleges and universities up and down the country might actually stand to reduce their carbon footprint by up to 5 tonnes per month by using just one standard service.

Here at Zeelo we understand that engaging parents is crucial to reducing car usage and improving air quality. To achieve this, we offer a range of services that are designed to encourage using sustainable modes of shared transport like buses and coaches. We also communicate regularly with parents to understand their hesitation in making this switch; whether that be due to timetabling conflicts, the availability of local bus stops or cost; all of which can be fed into our routing software to create more efficient and streamlined journeys that can service as many riders as possible. Route optimization can minimise travel time and reduce traffic congestion, ensuring that children arrive at school on time and parents can trust in the reliability of the service. By investing in service design and route optimization, transportation providers can create a service that meets the needs of parents and students, providing the assurance they need to make the shift away from cars.

From an environmental standpoint, Zeelo is the first global bus platform that offers 100% carbon neutral services. How are we able to do this? By aligning with strategic environment consultant; Climate Partner, Zeelo offsets the entirety of all of our journey's carbon emissions through projects in Uganda, Bulgaria, Columbia and Brazil.

Yet, we don't believe that offsetting is enough! Zeelo has made a firm commitment to offering fully EV transportation services with Net Zero emissions in the UK and developed markets by 2030. The sustainability and ESG goals of Zeelo's major clients have fueled a rise in demand for electric vehicles, with EVs accounting for 5.2% of Zeelo's services in Q1 2023 and ambitions to see this figure rise to 15% by the end of 2023.

Not convinced? Why not ask one of our education partners, Dwight School London, who recently became the first independent school in the United Kingdom to adopt a fully electric bus service for their students; offsetting an additional 26.45 cubic tonnes of CO2 each year, enhancing the air quality in the vicinity of the school and nearby towns where students are picked up and dropped off daily.

18 billion kg

CO_2 emitted annually in the UK due to the commute

1/4

of all traffic in the morning is due to the school run

1 billion

fewer car journeys per year if 1 in 25 switched from cars to a bus

We place innovation and sustainability at the heart of our school's mission, vision and values. We are thrilled and immensely proud to be the first school in the whole of the United Kingdom to add an electric vehicle to our fleet of school buses and our whole community is excited by this new initiative - Chris Beddows, Head of School, Dwight School London

This new option to switch to a 100% electric bus service will allow all Zeelo clients to significantly reduce the CO2 emissions (an extra 3 cubic tonnes of CO2 emissions savings, in addition to the 5 tonnes already saved as standard) but also enhance the quality of the air around their campus.

Whatever the future holds though, there is one certainty. More than ever before, we have a real opportunity to concentrate on the effects that the "morning drop off" has on traffic and CO2 emissions. We are at a pivotal turning point, and it is up to all of us to make the necessary changes for the benefit of students as well as for ourselves. Should you wish to learn more about how we are meeting the challenges of making this shift for school's, colleges and universities around the country, please feel free to get in touch!

Luke Ryan is General Manager for UK Education at Zeelo who provide carbon neutral, safe and reliable home to school transport within the education sector

Luke Ryan, General Manager, UK Education, Zeelo Ltd.

4. Procurement/ Catering

dolce schools catering

The Zero Food to Landfill Approach Making Waves in Education Catering

Aside from making nutritious, restaurant quality lunches from raw ingredients across its school kitchens, family run contract caterer, Dolce Catering, has a hidden, yet increasingly important, heritage in eliminating food waste. One which allows schools to avoid sending a single ounce of food waste to landfill.

The approach has impressed key figures in the industry, with a previous LACA Chair summarising their invention of online pre order in primary schools as 'the biggest blue sky thinking in education in 20 years'. It has since garnered interest in Sweden - a country at the forefront of driving down carbon emissions and reaching the goal of becoming carbon neutral.

As their award winning and innovative approach gains traction in the Independent Schools sector, it runs hand in hand with a drive by independent schools to lead the way in reducing food carbon emissions.

Dolce's approach has gained traction in Sweden - a country that has some of the most ambitious green economy policies in the world.

It's worth noting that schools that do not adopt this approach typically send on average 30% of their food to landfill, and coupled with the alarming statistic that approximately 8-10% of the world's greenhouse gas emissions relate to food waste, it's time for a radical change.

Initially, Dolce were the developers of the world's first ever online education pre-ordering and payments system. A clever aspect of their system provides unique features that allow kitchens to address food waste at every step of the process.

How they do this...

Stock level accuracy:
The system developed by Dolce allows parents and children to pre-order meals together online with recipes, allergen controls and dietary information all available. This process helps ensure that children of all ages get the meals their parents know they will love, guaranteed.
It also auto-calculates the produce required for the kitchen to cook the planned number of each dish on the upcoming menus by using the previous menu cycles order numbers and generating a shopping list. With no more guestimation, food waste is tightly managed.

Recipe Weigh Outs: This innovative feature provides the recipe on screen for each dish alongside a weigh out to the gram to make the amount of pre ordered portions. This removes the risk of overproduction and guarantees the child's food selection at the counter.

Pre Order Countdown: The touchscreen at the service counter not only tells the cook the pupils name and pre order but also their dietary requirements and any dish or food option they are not allowed. A countdown tells the server how many pre orders of each dish are still to be collected, allowing the server to increase the size for the older students who come through last. This means a reassuringly empty hotplate at the end of service.

Unavoidable food waste from the plate: with their unique approach to online pre ordering, recipe weigh outs and stock level accuracy, Dolce sees on average just over 5% of their food in the bin at the end of the school day...and although that seems a small

insignificant amount, Dolce's food waste elimination journey does not end there. They work with a trusted partner company that use leading AD technology to convert that small amount of waste food into renewable energy. With this approach, the 5% unavoidable food waste from the plate is then repurposed into gas, which is then used to supply the national grid.

Last but by no means least - Keeping it fresh
Utilising batch cooking techniques and cooking fresh every day through service not only allows Dolce to keep their food fresh, but it also gives them a greater handle on the amount of food going to waste.

As Dolce have been leaders in eliminating school food waste for over 20 years - is it time to try their approach?

Rachel Flynn,
Marketing Manager, Dolce

One Simple Shift

Becoming a more sustainable school is a crucial step towards creating a better future for both our environment and society. One simple shift that can make a tremendous difference in achieving this goal is to adopt a more conscious and eco-friendly approach to school supplies. By implementing a sustainable procurement policy, schools can ensure that they are purchasing products that are environmentally friendly, ethically sourced, and long-lasting, encouraging students and staff to walk, bike, or take alternative transportation to school can help reduce carbon emissions and traffic congestion.

These simple shifts can not only reduce waste and pollution but also promote responsible consumption and production. In a world where we are constantly bombarded with news about the environment and the impact of our actions on it, it's easy to feel overwhelmed. It's especially easy to feel like there's nothing we can do to make a difference. But that's simply not true! Everyone has the power to make choices that will help make the world a little bit better. And as students, parents and guardians of the next generation, you have even more power. The decisions you make now about what you buy, how you live, and what you do with your time can have a huge impact down the line.

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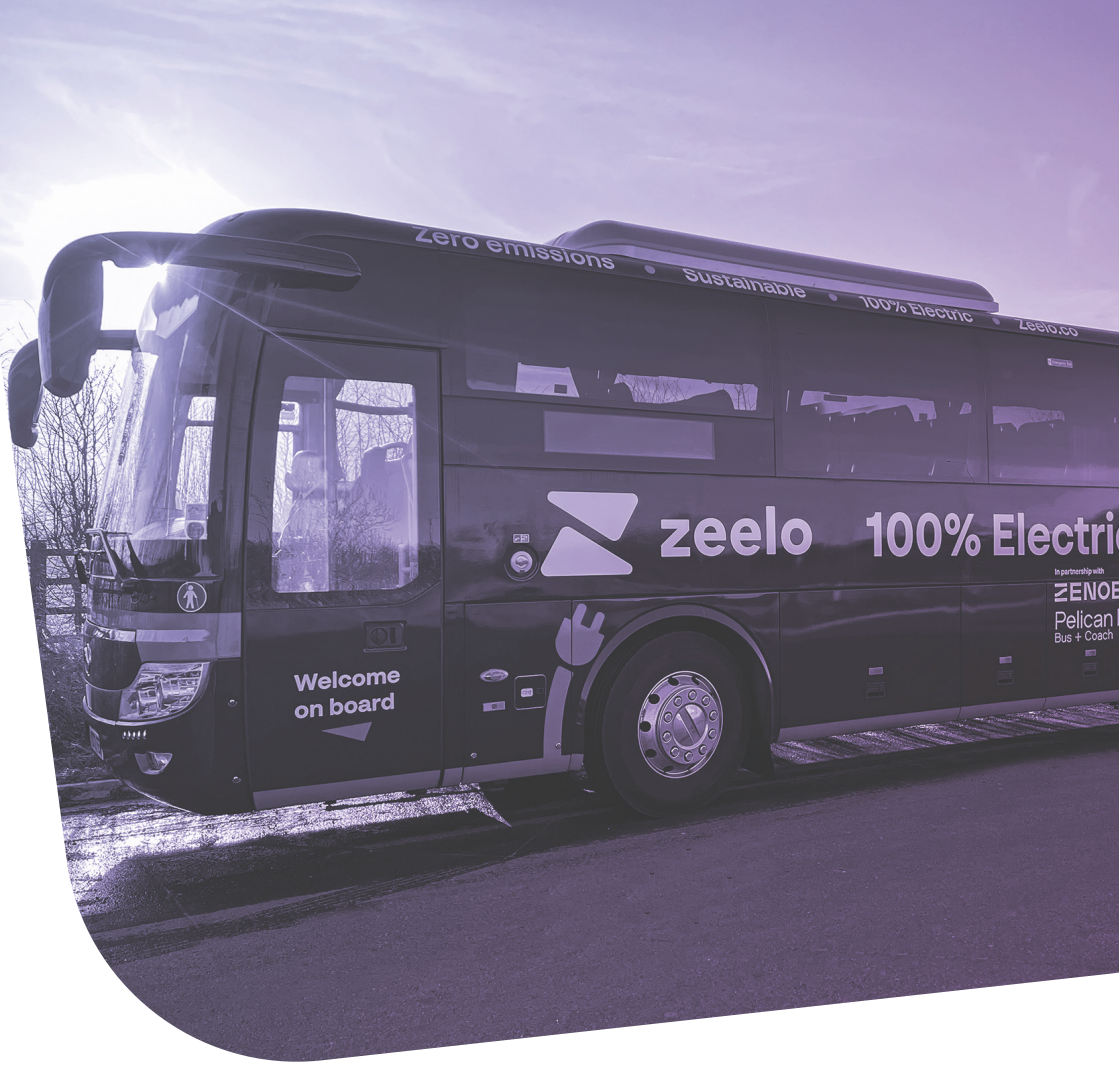
Conclusion/ESG Goals

It is clear that sustainability must become a top priority for the education sector, and schools can make a significant impact on reducing their carbon footprint by implementing sustainable practices. By making a simple shift towards sustainability, schools can not only reduce their environmental impact but also help to educate and inspire the next generation of leaders and changemakers.

It's crucial that schools take action now and work towards meeting and exceeding ESG (Environmental, Social, and Governance) goals. Failure to do so will not only have consequences for the environment but also for the school's reputation and ability to attract future students and staff.

We hope that this discussion has been a valuable resource for schools and education professionals committed to creating a sustainable future. By taking steps towards sustainability, schools can lead by example, inspire their communities and make a real difference. Join us on this journey towards a cleaner, greener, and brighter education sector that not only meets ESG goals, but exceeds them. Together, we can make a positive impact on our planet and future generations.

More than 70% of the actions identified by participating schools were low or zero cost.



Get in touch to learn more about sustainable solutions

luke@zeelo.co

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