Net Zero Action Plan

Strategy for Achieving Carbon Neutrality and Net Zero for 2050

Supriya Foster – SWC Sustainability

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1.0 Introduction

South West College (SWC), a leading provider of Further & Higher Education in Northern Ireland, operates across five main campuses in Tyrone and Fermanagh. It serves approximately 15,000 students annually, offering a diverse range of programs across nine Curriculum Schools. Central to its mission is bridging skills gaps and bolstering the economy by nurturing professional and technical skills. In addition to its educational initiatives, the college operates three Industry Innovation Centres, including the Centre for Renewable Energy and Sustainable Technologies (CREST).

These centres provide support to around 400 businesses annually, fostering regional industrial growth through innovative apprenticeships and a modern curriculum tailored to regional needs.

SWC's sustainability journey began over 15 years ago with pioneering curriculum offerings in renewable energy technologies. SWC was the first UK organisation to offer a tailored course on wind turbine installation and maintenance, leading to the introduction of Foundation Degree programs in the field.

In November 2021, SWC signed a Memorandum of Understanding with the United Nations at COP26, reaffirming its commitment to sustainable practices on a global scale.

In 2023 SWC established a dedicated Sustainability Office. This led to the development of its Sustainability Action Plan, Sustainability targets and promotion of Carbon Literacy cross all its campuses.

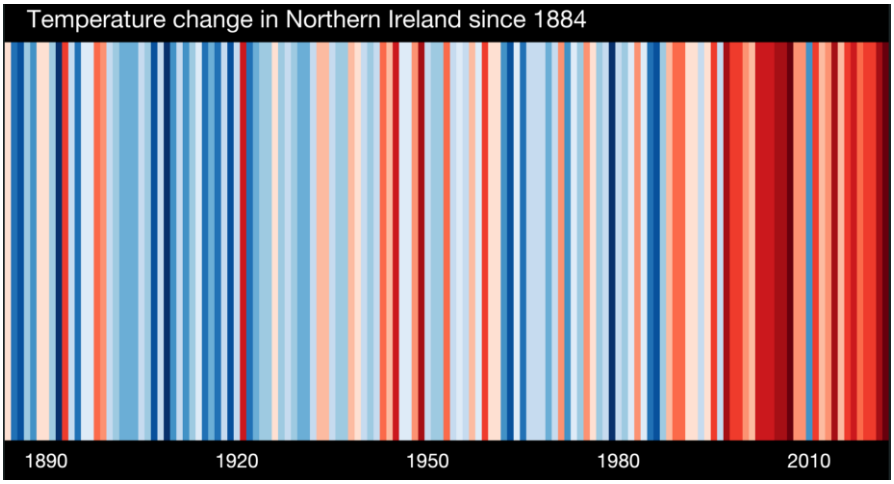
In 2019 the concept of “Net Zero” became more prominent in the Educational Sector following a recommendation from the Committee on Climate Change for the UK to embrace a net-zero target by 2050.

Following this, a Climate Emergency was announced in February 2020 by the NI Assembly. Unlike carbon neutrality, which saw the establishment of an international standard in 2010, the concept of net-zero is relatively new, and a comprehensive definition of what it entails had not existed until recently.

The IPCC defines “Net Zero” as follows:
“Carbon neutrality and net zero CO_2 emissions are overlapping concepts’ which ‘can be applied at the global or sub-global scales. At sub-global scales, net zero CO_2 typically applies to emissions under direct control or territorial responsibility of the entity reporting them while carbon neutrality is also applied to firms, commodities and activities and generally includes emissions and removals beyond the entity’s direct control or territorial responsibility, termed ‘Scope 3’ or ‘value chain emissions’ (Bhatia et al. 2011).
The recent Energy Act 2023 and Climate Change Bill have become driver for climate action in Northern Ireland and are welcomed by the SWC as it continues its journey towards net zero.

1.1 Key Definition and background information

Global warming has reached a tipping point globally and this has had profound implications for both the environment and society. SWC, as a leader in sustainability is actively combatting these challenges. SWC like much of Northern Ireland, has experienced the increasing frequency of extreme weather events and their impacts. The 21st century has witnessed a notable warming trend as shown in the Climate Stripes below, with the ten warmest years on record occurring since 1884.



This series of vertical-coloured bars, shows the progressive heating of our planet in a single, striking image. The climate stripes were created by Professor Ed Hawkins at the University of Reading in 2018. Climate projections for Northern Ireland paint a concerning picture, indicating a future characterised by warmer, wet winters, drier summers with heavy rainfall, and increased frequency of hotter summers. Such extreme temperatures will have catastrophic and far-reaching consequences both financially and environmentally in Northern Ireland. It will affect the insurance market, infrastructure, public health system (NHS), and biodiversity. Knowing this, SWC will address the climate crisis as an environmental imperative.

1.2 Key Definition and background information Climate Legislation

Northern Ireland has seen several key pieces of climate change legislation over the last 30 years. In December 2015, the United Nations Framework Convention on Climate Change (UNFCCC) COP 21 summit ratified 'The Paris Agreement". These accords committed the attending nations to mitigating the global temperature increase to within 2 degrees Celsius above pre-industrial levels by the end of the century in 2100.

In 2018, the Inter-Governmental Panel on Climate Change (IPCC) issued a landmark report assessing the consequences of global warming exceeding 1.5 degrees Celsius above pre-industrial levels. The report concluded that while limiting temperature rise to 1.5 degrees Celsius or below remained feasible, achieving this goal necessitated "unprecedented transitions in all aspects of society."

To date, anthropogenic activities have already driven global temperatures up by an estimated 1 degree Celsius. The most recent IPCC report, released in 2023, further underscore need for climate action.

The Climate Change Act (Northern Ireland) 2008 established a framework for addressing climate change in Northern Ireland. It set targets for reducing greenhouse gas emissions and promoting sustainability. Northern Ireland has adopted various policies and strategies to address climate change, such as the Northern Ireland Sustainable Development Strategy and the Northern Ireland Strategic Energy Framework. While Northern Ireland does not have its own independent climate change legislation it has been subject to UK-wide legislation and policies, such as the Climate Change Act 2008 and subsequent amendments.

In recent years, there has been a growing recognition of the need for stronger action on climate change, both globally and within Northern Ireland. This has led to increased focus on renewable energy, energy efficiency, and other measures to reduce greenhouse gas emissions and mitigate the impacts of climate change.

1.3 Sustainability at SWC

SWC acknowledges its role as an educational institution in contributing to the global endeavours to mitigate the impacts of climate change for future generations.
In 2023 SWC implemented and embedded Embracing the 17 Sustainable Development Goals (SDGs) into all its operations. These 17 Sustainable Development Goals represent a universal imperative to eradicate poverty, safeguard the environment, and enhance the well-being and prospects of all individuals globally.

SWC, as part of the EUCE, recognises the pivotal role universities play in building a culture of sustainability and advancing the SDGs through research, education, and operational practices. Therefore, SWC is steadfast in its commitment to integrating the SDGs across all its activities, thereby contributing to the collective pursuit of a sustainable and resilient future for all.

SWC's Net Zero Action Plan is a comprehensive strategy aimed at addressing environmental, social, and economic sustainability within the college in a bid to

advance the Net Zero agenda to 2050. SWC aims to lead by example and contribute to global efforts in addressing the climate crisis and promoting sustainable development.

1.4 Spheres of Influence

SWC's sustainability journey is deeply rooted in its commitment to fostering environmental stewardship, social equity, and economic resilience within its campuses and the broader community. Since its inception, the college has recognised the interconnectedness of sustainability principles with its core mission of providing quality education and serving as a catalyst for positive change.

At the heart of SWC's sustainability initiatives lies a comprehensive Sustainability Action Plan, meticulously crafted to align with the United Nations Sustainable Development Goals (SDGs). These goals serve as a blueprint for addressing global challenges such as climate change, poverty alleviation, and social inequality. Through strategic planning and collaborative engagement, the college has embarked on a transformative journey to embed sustainability across all facets of its operations.

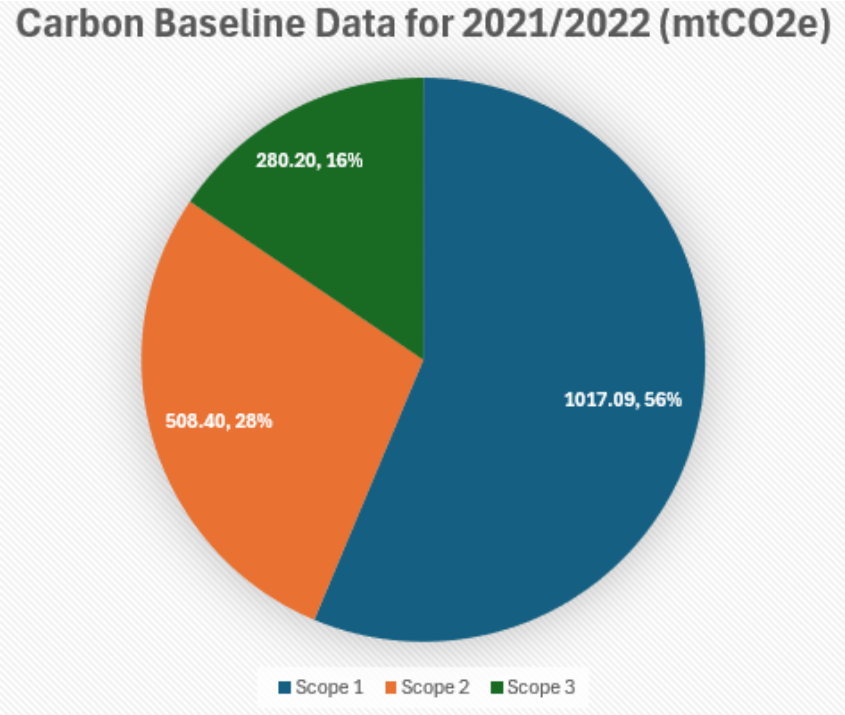
One of the cornerstones of SWC's sustainability efforts is its commitment to curriculum innovation. Recognising the pivotal role of education in driving sustainable development, the college has prioritised the integration of sustainability principles into its academic programs.

SWC has demonstrated a steadfast commitment to sustainable practices across its campuses. By investing in renewable energy projects, such as biomass boilers, and fostering a culture of resource efficiency among staff and students, the college is spearheading the transition towards a low-carbon future.

SWC places a strong emphasis on community engagement and outreach initiatives aimed at fostering a culture of sustainability beyond its campuses. Through partnerships with local schools, businesses, and governmental organisations, the college endeavours to promote environmental awareness, facilitate knowledge exchange, and address societal challenges collaboratively. By hosting events, workshops, and outreach programs, SWC seeks to inspire and mobilise individuals to embrace sustainable living practices.

2.0 Carbon Baselines

During the baseline assessment in the Academic Year 21/22, SWC calculated its carbon baseline emissions to be 1805.69 $mtCO_2e$, 1771.84 $mtCO_2e$, after carbon offsetting is applied.



$mtCO_2e$	Scope 1	Scope 2	Scope 3	PV Production /Offsetting	Total Emissions
2019/2020	1068.19	535.65	175.23	7.24	1771.84
2020/2021	922.17	427.44	64.48	7.71	1406.38
2021/2022	1017.09	508.40	280.20	34.24	1771.45

An assessment boundary was established encompassing Scope 1,2 and 3 emissions. This selection was based on data availability, it's potential for direct action towards achieving reductions and its viability for setting and monitoring emission targets.

Through commitment to sustainable practices, particularly evident in the adoption of PV production generation, SWC has successfully offset a portion of its carbon emissions. Leveraging renewable energy sources, SWC's PV production yielded an impressive 34.24 $mtCO_2e$, a testament to SWC's dedication to cleaner energy solutions. Moving towards 2050, SWC will remain proactive in reducing indirect emissions, even those excluded from the net-zero target.

SWC will Implement continuous monitoring of the annual carbon footprint and regularly report progress against our Net Zero targets. It will also minimise indirect emissions by actively addressing and reducing both internal and broader value chain emissions.

While reductions were achieved in some years, the slight increase in emissions in 2021/2022 post Covid-19 underscores the need for continued efforts to mitigate carbon emissions. Moving forward, SWC will implement the following strategies to accelerate progress towards Net Zero:

- Further Invest in Renewable Energy: Expanding renewable energy initiatives can help offset remaining emissions and transition towards a low-carbon energy system. SWC will collaborate closely with our partners (BES/Resolis) to explore ways to implement these systems in our campuses.
- Enhance Energy Efficiency: Implementing energy-saving measures and upgrading infrastructure will reduce Scope 1 and 2 emissions, thus contributing to Net Zero goals (See Below).
- Sustainable Transportation: Promoting sustainable transportation options and reducing reliance on fossil fuels will mitigate Scope 3 emissions associated with commuting and travel (See below).
- Carbon Offsetting: Continued investment in carbon offsetting projects will help neutralize unavoidable emissions and achieve Net Zero.

Net zero refers to achieving a balance between the greenhouse gases produced and those removed from the atmosphere. This equilibrium should be attained primarily through a rapid reduction in carbon emissions. However, in cases were achieving zero carbon is not feasible, offsetting through carbon credits or sequestration via nature-based or technological solutions may be necessary.

2.1 Achieving Net Zero

To accomplish net zero carbon SWC has embraced the hierarchical principles. The Hierarchical principles for achieving net zero refer to a set of guiding principles that prioritise actions and strategies based on their effectiveness in reducing greenhouse gas emissions and achieving carbon neutrality.

These principles help to ensure that efforts to address climate change are focused on the most impactful strategies and activities. These principals are as follows.

- Avoidance: The highest priority is given to avoiding or minimizing emissions. This includes actions such as reducing energy consumption, implementing energy efficiency measures, and minimizing waste generation.
- Reduction: After avoidance, the next priority is to reduce emissions wherever possible. This involves transitioning to renewable energy sources where possible and implementing low-carbon transportation solutions.
- Substitution: Substituting high-emission activities or materials with lower-emission alternatives is another key approach to carbon emission reduction. For example, replacing fossil fuel-based energy sources with renewable energy sources like solar or wind power, or substituting carbon-intensive materials with sustainable alternatives.
- Offsetting: Offset measures are considered as a last resort and should only be used to compensate for emissions that cannot be avoided, reduced, or substituted.

These hierarchical principles will help guide SWC's decision-making and resource allocation to ensure that efforts to achieve net zero are both effective and efficient. By prioritising actions based on their potential to reduce emissions SWC will combat climate change and transitioning to a sustainable, low-carbon future.

2.2 Our Net Zero Target

SWC is committed to achieving a net zero greenhouse gas (GHG) emissions target by 2050 across Scope 1, 2, and 3 emissions, as identified within our current carbon footprint. Additionally, in alignment with local public sector organisations, we pledge support for the Northern Ireland Government's target of a 30% reduction in emissions by 2030 for Scope 1 and 2 emissions. Specific interim targets tailored to each key area will be established for Scope 3 emissions within the initial 12 months

of the Net Zero Plan. Continuous review and adaptation of the plan and associated activities will be undertaken to address unforeseen impacts in the future on a yearly basis.

Attaining net zero carbon emissions presents an ambitious and formidable task, especially considering the climate crisis confronting Northern Ireland. By setting 2050 as our target, we instil a practical, yet achievable date for transformative change throughout the college. This target harmonises with the commitments outlined in our Sustainability Action Plan and aligns with the expectations of our college community.

Several factors will influence the realisation of the 2050 target, including:

- Scope 3 emissions: Scope 3 can account for up to 80% of all emissions. Currently Scope 3 is voluntary for the educational sector. Reporting on and reducing these emissions poses a significant challenge.
- Campus infrastructure: A considerable portion of our buildings are owned in partnership with BES/Resolis which imposes restrictions on building refurbishment and affects decarbonisation efforts. We will continue to work closely with all our partners to progress out 2050 net zero agenda.
- Decarbonization of the Northern Ireland electricity grid: The rate at which the electricity grid decarbonizes is pivotal in campuses which do not have access to renewable technologies.
- Energy security risks: Transitioning to decarbonised energy sources, including intermittent sources like solar and wind, necessitates flexibility in energy supply to mitigate energy security risks.
- Government policies: Evolving international, national, and local government policies and legislative requirements, including taxation and incentives, will shape our approach to achieving net zero emissions.

In navigating these challenges, SWC remains steadfast in its commitment to achieving net zero carbon emissions by 2050, guided by a comprehensive strategy that encompasses collaboration, innovation, and proactive engagement with stakeholders at all levels.

2.3 Energy Consumption and Estates Management

SWC will implement the Energy Hierarchy as its strategy for mitigating Scope 1 and 2 carbon emissions stemming from energy use.

- Be lean: Reduce energy consumption through behavioural changes across campuses. Implement control measures, enhance system efficiency, improve building fabric (See Passive House), and upgrade lighting systems.
- Be clean: Transition to decarbonised electric sources. Supply energy efficiently and use efficient technologies for our buildings and assets.
- Be green: Power buildings and assets using renewable energy sources.

- Offset: Compensate for any remaining carbon emissions through offsetting mechanisms or carbon sequestration initiatives.

Key interventions include:

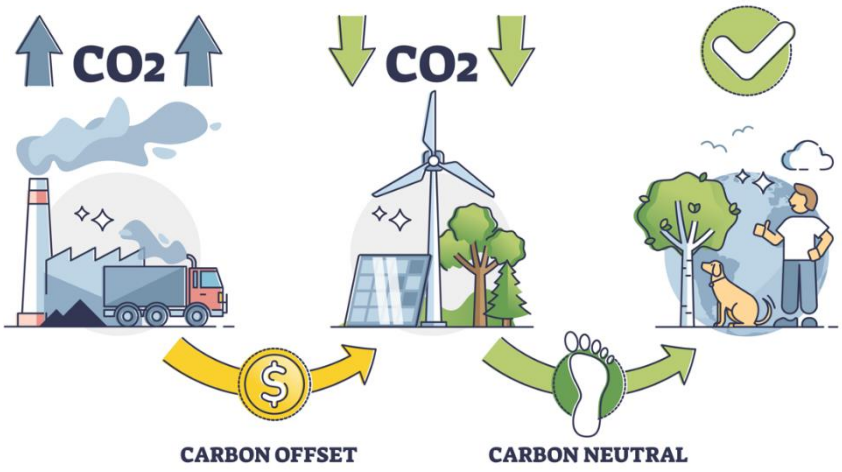
- Replacing fluorescent lighting with energy-efficient LED fittings.
- Upgrading building fabric, glazing, and insulation as needed.
- Reviewing and, where feasible, replacing heating systems with low to zero carbon alternatives.
- Installing photovoltaic panels where possible across the college estate.
- Enhancing metering and data management systems.
- Procuring renewable energy (green electricity & green gas) to replace fossil fuel-based supplies whenever possible.

Through the implementation of these interventions, SWC aims to significantly reduce its Scope 1 and 2 carbon emissions, ultimately working towards the attainment of net zero emissions by 2050.

2.4 Reducing Scope 1 and 2

SWC understand the importance of reducing Scope 1 and Scope emissions. Given that Scope 1 and 2 emissions directly contribute to climate change by releasing greenhouse gases, by reducing Scope 1 and Scope 2, SWC can lower their overall carbon footprint and lessen our impact on the environment. By taking proactive measures to reduce these emissions, SWC can effectively demonstrate our commitment to environmental stewardship and sustainability.

Mitigating Scope 1 and Scope 2 emissions can lead to cost savings and operational efficiencies for organisations, therefore by improving energy efficiency, and transitioning campuses to renewable energy sources, and implementing sustainable practices, SWC can reduce our energy consumption and associated costs. Investing in renewable energy technologies can provide long-term financial benefits and protect against fluctuations in fossil fuel prices.



Giving that Scope 1 and Scope 2 emissions is essential for combating climate change, complying with regulations, and achieving cost savings, SWC will employ the following strategies:

- Energy Monitoring and Targeting: Monthly recording and analysis of metered energy consumption will facilitate the preparation of comprehensive reports. Performance will be assessed against benchmarks, with corrective action taken as necessary.
- Maintenance and Plant Control: Regular maintenance and servicing heating systems and equipment to maximise efficiency. Integration of appropriate controls to minimise energy use, linked to SWC's Building Management System where feasible.
- Renewable Energy Investment Projects: Continual assessment of SWC's facilities to identify opportunities for investment in renewable energy technologies. Potential projects will undergo detailed feasibility studies and economic appraisals before implementation, following College procurement procedures.
- Sustainable Transportation: Encouraging staff to utilise teams, zoom or videoconference for business purposes where feasible. Installation of further EV charging stations across campuses to promote electric vehicle uptake and support the College's goal of replacing or adapting 25% of the transport fleet with electric/hybrid vehicles.
- New Build/ Major Refurbishment Projects: New refurbishment projects will be completed with energy efficiency in mind, including LED lighting, integration of PIR sensors, and consideration of renewable energy technologies. Maximising natural ventilation, solar heat gain, and daylight utilisation.
- Equipment Purchasing: Reviewing the College's equipment procurement policy to prioritise energy-efficient items and comply with best practices. Considering whole life cycle costing to avoid inefficient equipment.
- Energy Communication and Publicity: Implementing awareness campaigns to change attitudes and behaviors towards energy efficiency including the #swcswitchoff campaign. Providing motivation, training (such as carbon literacy), and improved awareness to actively contribute to energy efficiency targets.
- Review of Setpoints: Regular review of temperature setpoints to ensure a safe and comfortable working environment while optimising energy efficiency.
- BMS Scheduling: Utilising the Building Management System for efficient heating schedules and promoting energy responsible behaviour. Collaborating with staff to optimise energy usage during holiday periods and peak tariff times.

SWC will continue to work with our partners and suppliers to support its energy management journey.

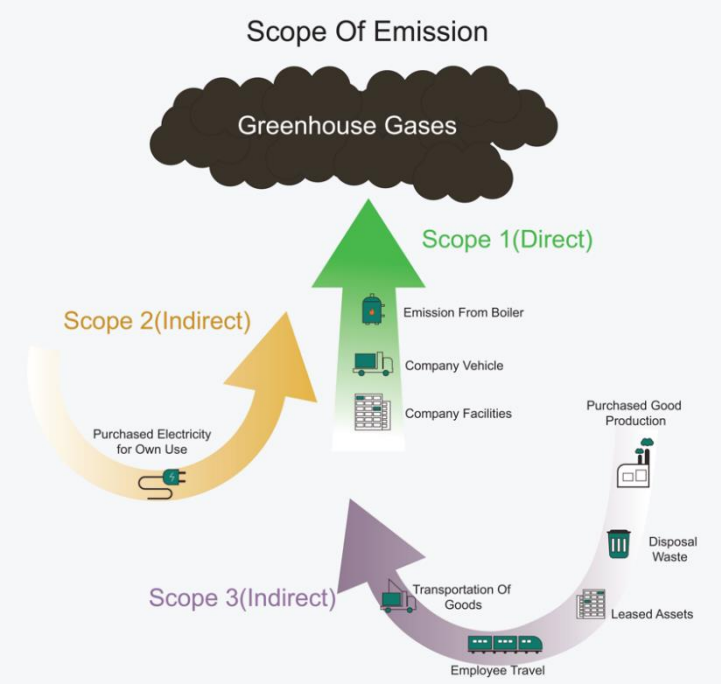
These included:

- BES/Resolis: Responsible for maintaining PFI buildings at Omagh and Dungannon campuses in an energy-efficient manner.

- MITIE: Provides facilities management services at Omagh and Dungannon campuses to optimize energy-efficient measures.
- DFE & SIB - Invest to Save: Engages with the Department for Education and Strategic Investment Board to access funding and expertise for energy reduction projects.
- FE Estates Forum: Participates in forums with Estates Managers across the FE sector in Northern Ireland to share expertise and resources in energy management.
- BITC: Participates in the NI Environmental Benchmarking Survey to benchmark environmental performance and promote improvement.
- EAUC Ireland: Engages in forums to discuss environmental sustainability issues and share best practices among third-level educational institutions.

2.5 Scope 3 reductions

This section presents an outline of the proposed strategy for mitigating Scope 3 carbon emissions specific to SWC and offering a strategic overview of the necessary interventions to achieve net zero emissions.
Scope 3 emissions typically constitute the most substantial component of an organisation's carbon footprint, a trend notably pronounced in the Higher Education sector. Currently SWC is only reporting on certain categories due to data availability. These emissions pertain to the college's 'indirect' carbon outputs, posing a significant obstacle to our goal of achieving net zero emissions by 2050.



The primary challenges in reporting include issues related to data availability and accuracy, carbon generated through activities and operations beyond the college's direct control, external policy and infrastructure factors, ongoing operational requirements, and global economic influences. Despite these challenges, it is imperative, as a leading educational institution, that we comprehensively assess the broader environmental impacts of our operations, reduce Scope 3 carbon emissions, and engage staff, students, suppliers, and contractors in our journey towards net zero emissions.

The strategic focus areas for Scope 3 emission reduction encompass travel of staff and students (both commuter and business-related), purchased goods and services, capital works projects (including building construction), and investment strategy.
To facilitate the achievement of these targets, several initial enabling activities will be actioned including the revision and enhancement of data collection methodologies for Scope 3 emissions.

Travel

Business travel is essential to support core activities and align with the broader strategic goals of SWC. However, it also carries a significant carbon footprint, and efforts will be made to ensure that climate-conscious decisions are prioritised by Staff and Students. Key interventions aimed at mitigating the environmental impact of business travel include:

- Enhancing awareness of carbon foot printing via Carbon Literacy.
- Setting annual targets for reviewing travel management data
- Collaborating with staff and finance in carbon reporting regarding business travel.
- Engaging staff actively to promote sustainable practices, emphasising the importance of the UN Sustainable Development Goal on Climate Action and sectoral norms regarding climate-conscious travel.
- Incorporating policies and principles such as the Sustainability Action Plan that minimise the need for travel, aiming to reduce emissions whenever possible.
- Exploring alternatives to traditional high-carbon transportation methods and providing information on low-carbon transport options.

Staff and student commuting patterns at SWC are influenced by various factors such as teaching schedules, personal preferences for study, and accessibility to on-campus services. Economic considerations and proximity to low-carbon transportation alternatives also impact commuting choices for students. Similarly, staff commuting is influenced by job requirements and the availability of agile working options. To facilitate a transition to low-carbon modes of transport, SWC will implement a series of interventions targeting both staff and students. Student travel poses significant difficulties, College's campus location necessitates travel to and from various regions, hampering efforts in promoting climate-conscious travel practices.

Purchased Goods and Services

Purchased goods and services significantly contribute to SWC's Scope 3 carbon baseline. Several initiatives can be implemented to reduce emissions, including encouraging staff to reduce consumption, and consistently messaging suppliers to measure and reduce their carbon impact.
SWC will implement the following:

- Review procurement policy and processes to prioritise future-proofed reduced carbon purchases.
- Continuing to review Scope 3 data and developing methodology to account for a transition to a net zero.
- Set annual targets for procurement action on Scope 3 reduction, including enhancing climate literacy to inform staff regarding purchasing decisions.
- Collaborating with other purchasing consortia and suppliers to drive action in supply chains aimed at reducing carbon emissions.
- Encouraging sustainable practices among staff by providing guidance on meeting the expectations regarding the UN Sustainable Development Goal on Responsible Consumption and Production.
- Embed circular economy principles.
- Investigating and investing in transitioning to net zero supply chains wherever feasible.

Once full scoping has been established it is expected that Capital projects will represent a significant portion of SWC's Scope 3 carbon baseline and thus play a crucial role in the overall carbon footprint reduction efforts. Therefore, SWC will:

- Prioritise the re-use, retrofit, and refurbishment of existing buildings over demolition and construction of new buildings (See Passive House).
- Reviewing net zero targets for capital works projects to ensure they align with the correct level of ambition.
- Continuing to review Scope 3 data and developing methodology to account for contractual measures aimed at reducing carbon in works contracts.
- Investigating and investing in transitioning to net zero supply chains wherever feasible.

Waste Management and Water Treatment

While waste constitutes a small proportion of SWC's Scope 3 carbon baseline, it aligns with broader efforts to transition to a circular economy, both locally and nationally.

Key interventions will encompass:

- Monitor waste management streams to ensure they align with SWC's net zero ambitions.
- Ongoing review of waste streams through formal audits to identify targeted opportunities for waste reduction, increased recycling, and development of Scope 3 data to reflect waste reduction actions.
- Setting annual targets for reducing inbound and outbound waste, including raising awareness about waste hotspots, improving recycling facilities, and implementing campaigns based on the waste hierarchy.
- Collaborating with BES/Resolis and suppliers to drive action in supply chains aimed at waste reduction.
- Promoting sustainable practices by engaging with staff and suppliers regarding expectations related to the UN Sustainable Development Goal on

Responsible Consumption and Production, which involves addressing waste generation.

- Striving to eliminate waste by assisting staff and suppliers in integrating circular economy principles into specifications and manufacturing processes, including implementing take-back schemes and repair options.
- Continuously reviewing waste streams through formal audits to identify additional opportunities for waste reduction, increased recycling, and the refinement of Scope 3 data to reflect waste reduction efforts.

Water Consumption

Although water constitutes a small portion of SWC's Scope 3 carbon baseline, it still necessitates action. Key targets will include:

- Incorporating water considerations into all Estates policies.
- Continuing to assess water usage across the campus through formal audits and refining Scope 3 data to reflect actions taken to reduce water consumption.
- Establishing annual targets to reduce water consumption in identified hotspots, promoting broader campaigns to reduce water usage in workplace kitchens, and utilising harvested rainwater in campus gardens.
- Promoting sustainable practices among staff and suppliers by highlighting expectations related to the UN Sustainable Development Goal on Clean Water and Sanitation, which encompasses sustainable management of water resources across the campus and supply chains.
- Striving to minimize wastewater by facilitating easy reporting and rapid response to
- Exploring and investing in water-saving techniques and technologies such as water-efficient taps, showers, and toilets equipped with flow controllers.

2.6 Project Identification – Net Zero Signature Projects

Using the Scope 1, 2 and 3 Sustainability Projects found in our Sustainability Action Plan, we will implement the following as our Net Zero Signature Projects for 24/25

- **Sustainability Induction Module Implementation:** Develop a comprehensive sustainability induction module tailored for both staff and students, encompassing the UN Sustainability Goals and Carbon Literacy. This initiative will foster a culture of sustainability awareness, equipping individuals with the knowledge and tools necessary to contribute to carbon reduction efforts, thus advancing the institution towards its Net Zero targets.
- **Sustainability Marketing Campaign**: Launch an integrated campaign to foster sustainable behaviours among students and staff members. By promoting eco-conscious practices and highlighting the importance of reducing carbon footprints, this campaign will directly contribute to mitigating environmental impact and aligning with Net Zero objectives.
- **Biodiversity Enhancement:** Enhance biodiversity across all campuses by leveraging existing infrastructure and establishing designated wildflower areas. By creating habitats that support diverse ecosystems, this initiative contributes to carbon sequestration and ecosystem services, playing a vital role in achieving Net Zero by restoring natural carbon sinks.
- **Baseline Energy Usage Data Collection**: Undertake the systematic collection of baseline energy consumption data to monitor progress towards achieving zero carbon targets. By accurately assessing energy usage patterns, the institution can identify areas for improvement and implement strategies to reduce energy consumption, thereby advancing towards Net Zero.
- **Recycling Initiative Implementation**: Execute comprehensive recycling programmes across all campuses to mitigate waste generation and promote the ethos of reuse. By diverting waste from landfills and reducing the demand for virgin materials, this initiative conserves energy and resources, aligning with Net Zero principles of waste minimisation and resource efficiency.
- **Carbon Baseline Establishment:** Establish transparent baseline data for carbon emissions to facilitate ongoing monitoring towards achieving net-zero status. By quantifying emissions from various sources, the institution can set realistic reduction targets and track progress towards Net Zero, guiding strategic decision-making and resource allocation.
- **Local School Outreach Programme**: Engage in outreach programmes with local schools, offering workshops to disseminate sustainability principles. By educating future generations and fostering a culture of sustainability from an early age, this initiative ensures long-term behavioural change and empowers communities to contribute to Net Zero goals.
- **Promotion of Electric Vehicles**: Install electric vehicle charging points to encourage the adoption of sustainable transportation methods. By facilitating the transition to electric vehicles, this initiative reduces greenhouse gas emissions

from transportation, thus aligning with Net Zero objectives to decarbonise the transport sector.

- **UN International Days Celebration**: Organise events to commemorate various UN international days centred around sustainability. By raising awareness and promoting dialogue on global sustainability challenges, these events inspire collective action and reinforce the institution's commitment to achieving Net Zero in alignment with international goals.
- **Campus Food Pantry/Garden Initiative**: Establish a campus food pantry or community garden to alleviate food insecurity among students and staff. By promoting access to locally sourced, nutritious food options and reducing food waste, this initiative supports sustainable food systems and contributes to Net Zero by minimising the carbon footprint associated with food production and distribution.
- **Fitness and Wellness Programmes:** Promote physical and mental well-being through structured fitness regimes and stress management initiatives. By encouraging active lifestyles and holistic wellness practices, this initiative enhances individual resilience and productivity, fostering a sustainable campus community conducive to achieving Net Zero objectives.
- **Energy Conservation Awareness Campaign**: Raise awareness on energy conservation through targeted campaigns and energy-efficient building designs. By encouraging energy-saving behaviours and implementing sustainable infrastructure solutions, this initiative reduces carbon emissions and advances the institution towards Net Zero by optimising energy use and reducing reliance on fossil fuels.
- **Sustainable Infrastructure Upgrades**: Upgrade campus infrastructure with sustainable technologies and design principles. By investing in energy-efficient systems and renewable energy solutions, this initiative reduces carbon emissions associated with building operations and supports the transition towards Net Zero by creating more sustainable built environments.
- **Promotion of Sustainable Transportation:** Advocate for sustainable transportation options such as cycling infrastructure and carpooling schemes. By reducing reliance on fossil fuel-dependent modes of transport, this initiative lowers carbon emissions and improves air quality, thus contributing to Net Zero goals by transitioning towards more sustainable and low-carbon transportation systems.

Energy Management: The broader Energy Management initiatives fall under SWC's Energy Management plan. The aim is to successfully reduce the College's overall energy consumption with the aid of an effective energy monitoring system.
The objectives as outlined in the policy are to:

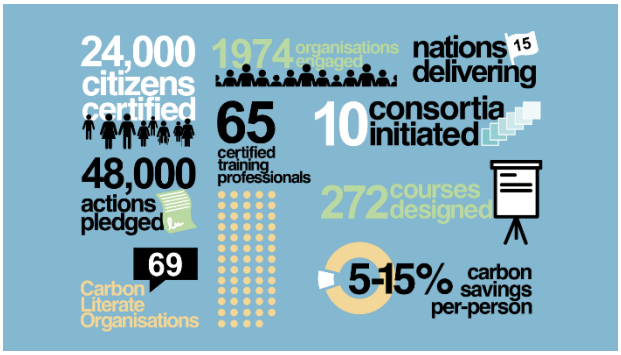
- Reduce, where possible, energy consumption and promote energy conscious behaviours throughout the College.

- Minimise resultant carbon dioxide (CO2) emissions and lower the College's carbon footprint using annual carbon reporting of scope 1, 2 and 3 emissions Year 1 as a benchmark.
- Establish, implement and maintain energy monitoring and measurement procedures to ensure ongoing meaningful measurement.
- Work towards an agreed approach for setting and publishing relevant, clear and understandable annual targets for energy consumption whilst monitoring performance against benchmarks.
- Raise awareness of the College's approach to energy-management and promote energy saving practices among staff and students.
- Strive to maximise the amount of renewable energy (both electric and heat) that is being generated onsite and which is being used to help meet the College's overall energy requirements.
- Procurement decisions should, where possible, factor cost-savings from energy-efficiency over the lifetime of a good/asset in addition to the up-front investment

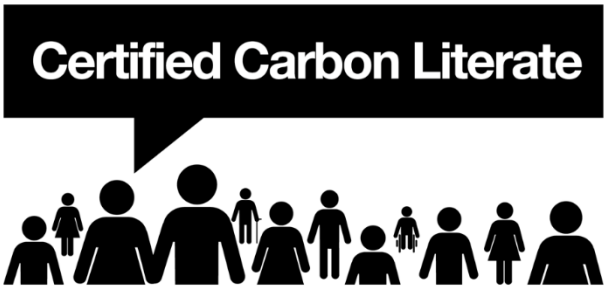
The above objectives provide a benchmark to monitor the College's progress in establishing best practise standards in energy efficiency for further education institutions.

3.0 Training and Education

3.1 Carbon Literacy Project



Education and Training will be paramount to the implementation of this policy. South West College will offer Carbon Literacy to all staff and Students. The Carbon Literacy Project is a unique initiative aimed at raising awareness and understanding of climate change and its associated challenges. Developed in the United Kingdom, the project provides individuals and organisations with the knowledge, skills, and motivation to act on climate change.



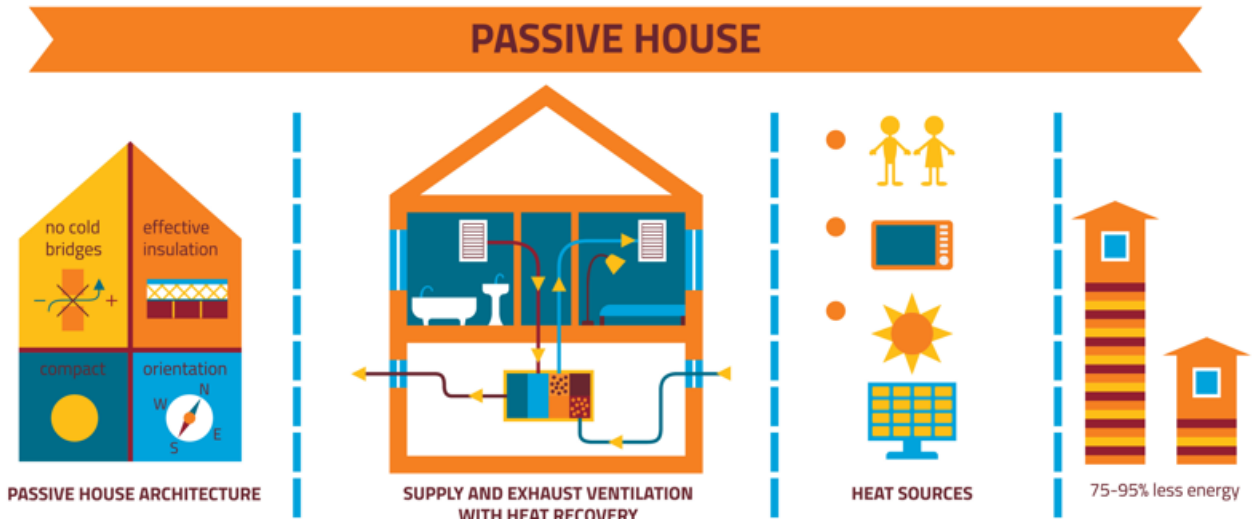
At its core, the Carbon Literacy Project seeks to empower people to make informed decisions and adopt sustainable behaviours that reduce their carbon footprint. Through interactive workshops, training sessions, and educational materials, participants learn about the causes and consequences of climate change, as well as practical steps they can take to mitigate its impacts.

The project covers a wide range of topics related to carbon emissions, energy efficiency, waste management, sustainable transportation, and renewable energy. Participants also explore the interconnectedness of environmental, social, and economic issues, gaining insights into the importance of sustainability in addressing global challenges.

By fostering a sense of responsibility and collective action, the Carbon Literacy Project aims to mobilise individuals and organisations to play an active role in combating climate change. Through partnerships with schools, businesses, government agencies, and community groups, the project reaches diverse audiences and promotes a culture of sustainability across society.

Overall, the Carbon Literacy Project serves as a valuable tool for building climate resilience, driving innovation, and fostering collaboration towards a more sustainable and equitable future.

3.2 The Importance of Passive House Standard and NZEB Retrofit



The Passive House Standard stands as a stringent building certification prioritising energy efficiency, comfort, and sustainability. Buildings constructed or retrofitted to meet this standard significantly reduce energy consumption for heating and cooling, thus achieving ultra-low energy usage and minimal environmental impact.

Retrofitting existing buildings where possible to meet the Passive House Standard is pivotal for SWC's Net Zero targets for several reasons:

- **Energy Efficiency**: Retrofitting existing buildings to Passive House standards involves improving insulation, sealing air leaks, and upgrading windows and doors to minimise heat loss and gain. By curbing energy demand for heating and cooling, Passive House retrofits bolster overall energy efficiency and propel buildings closer to net-zero energy consumption.
- **Carbon Emissions Reduction**: Buildings are a significant source of carbon emissions, primarily through energy consumption for heating, cooling, and electricity. Retrofitting existing buildings to the Passive House Standard can significantly slash carbon emissions by trimming energy demand and dependence on fossil fuels. This aligns with net-zero objectives by reducing the carbon footprint of buildings and mitigating their contribution to climate change.
- **Health and Comfort:** Passive House retrofits prioritise indoor air quality, thermal comfort, and occupant well-being. By enhancing insulation, air tightness, and ventilation systems, these retrofits cultivate healthier and more comfortable indoor environments. Improved comfort can enhance occupant satisfaction and productivity while lessening the need for energy-intensive heating and cooling systems.
- **Long-Term Cost Savings:** Though Passive House retrofits may necessitate upfront investment, they offer substantial long-term cost savings through

reduced energy bills and maintenance expenses. By diminishing reliance on fossil fuels and volatile energy prices, Passive House buildings can furnish financial stability and resilience amidst fluctuating energy costs.

Moreover, incorporating elements of nearly Zero Energy building (NZEb) retrofits into SWC's strategies can significantly bolster its Net Zero targets. These retrofits focus on maximising energy efficiency and utilising renewable energy sources to achieve nearly zero energy consumption. By integrating NZEb principles into retrofit projects, SWC can further enhance its energy performance and accelerate progress towards its Net Zero goals.

4.0 SWC's Approach to Offsetting

The reduction of emissions through mitigation measures and interventions stands as the foremost approach in diminishing our environmental impact to meet the 2050 net zero target. While achieving zero emissions solely through reduction activities may not be feasible, residual emissions are likely to remain. Even with the implementation of offsetting regimes, it remains imperative for the SWC to persist in implementing carbon reduction initiatives alongside carbon offsetting.

Carbon offsets serve as a mechanism to balance carbon accounting, enabling us to attain a carbon-neutral or net zero position. However, the regulatory landscape for carbon offsetting varies internationally and within the UK, evolving continuously. While standards exist for different types of offsetting regimes, the voluntary carbon offset market lacks comprehensive regulation and standards, posing potential challenges in procuring offsetting strategies aligned with our 2050 net zero ambitions.

Considering these factors, we will develop an offsetting strategy utilising offsets adhering to appropriate standards to achieve carbon neutrality or net zero for our Scope 1, 2, and 3 carbon emissions. Best practice and high-quality offsetting regimes are likely indispensable in reaching our 2050 net zero target.

For this, we will leverage our academic expertise, adopting a science-based approach that prioritises the quality of offsets over quantity. Furthermore, engagement with others in the Higher Education sector and participation in sector-specific offsetting schemes, such as the EAUC Carbon Coalition, will facilitate collective efforts to offset emissions from institutional activities.

4.1 Climate adaptation and resilience

While there's a growing momentum across the UK to curb greenhouse gas emissions, irreversible shifts due to climate change are already underway.

Regardless of the pace of future decarbonisation, the evolving impacts of climate change necessitate organisational readiness to adapt.

A climate adaptation plan furnishes us with a framework to evaluate and bolster our resilience against climate change impacts. Resilience, defined as the capacity of the college and its systems to endure and flourish amidst potential disruptions, is crucial. Climate change has the potential to introduce new disruptions and exacerbate existing risks.

Climate Risks for SWC

Climate change impacts in Northern Ireland will influence the college. Initial assessments highlight risks such as disruptions to the supply chain due to global climate change, potential infrastructure damage from extreme weather events leading to campus closures, and disruptions from overheating affecting staff, students, and operations.

Next Steps:

The Creation of a Climate Adaptation Plan into governance and reporting structures, assigning owners to adaptation measures, incorporating climate risks into existing risk registers, and scheduling periodic reviews are crucial steps. These actions will enhance our ability to adapt to current and future climate impacts, ensuring a resilient college for the future.

4.2 Delivering our Net Zero Plan

Beginning with the creation of this policy, SWC will follow the below road map to start its journey to Net Zero.

- Establish a Net Zero Action Group / Completion of Net Zero Action Plan (In Progress): Transform the existing Sustainability Implementation Group into a dedicated Net Zero Action Group, tasked with spearheading the college's efforts towards achieving net-zero carbon emissions.
- Conduct a Comprehensive Carbon Audit /Baseline: Undertake a thorough carbon audit to assess SWC's current carbon footprint across all emission scopes, including direct and indirect emissions, in line with UK and Northern Ireland legislation on climate change.
- Set and implement Ambitious Net Zero Targets: Develop ambitious, science-based net-zero targets aligned with UK and Northern Ireland legislative requirements, ensuring that SWC contributes effectively to national and regional carbon reduction goals.
- Prioritise Carbon Reduction Initiatives: Focus on prioritising carbon reduction initiatives across all aspects of college operations, guided by the findings of

the carbon audit and in alignment with the newly established net-zero targets.

- Invest in Renewable Energy and Low-Carbon Technologies: Allocate resources towards investing in renewable energy infrastructure and low-carbon technologies, leveraging funding opportunities available through UK government initiatives and Northern Ireland's Renewable Energy Action Plan.
- Enhance Industry Collaboration: Strengthen collaboration with industry partners through initiatives like CREST, fostering innovation and knowledge exchange in sustainable technologies to accelerate progress towards net-zero emissions.
- Further integrate Sustainability into Curriculum via Carbon Literacy
- Promote Sustainable Practices: Foster a culture of sustainability among students, staff, and stakeholders by promoting sustainable practices such as energy conservation, waste reduction, and sustainable transportation options across campus.
- Monitor and Report Progress: Implement robust monitoring and reporting mechanisms like our Sustainability Reporting to track progress towards net zero, ensuring transparency and accountability in achieving carbon reduction targets.
- Engage with the Community: Engage with the local community to raise awareness about climate change and the importance of carbon reduction, fostering partnerships and collaborative initiatives to address sustainability challenges collectively.
- Continual Improvement and Adaptation: Commit to continual improvement and adaptation in sustainability practices, regularly reviewing and updating strategies and initiatives to remain responsive to evolving legislative requirements and emerging sustainability opportunities.

By following this 11-step path to net zero, SWC can effectively navigate the complexities of carbon reduction and contribute significantly to the collective effort towards combating climate change while fulfilling its obligations under UK and Northern Ireland legislation.