JOURNEY TO NET ZERO 2050

HENRY BROTHERS

Altogether Stronger

HENRY BROTHERS

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STATEMENT FROM MANAGING DIRECTOR

The transition to a Net Zero economy requires a collective call to action. Now is the time to abolish competitive self-interest and create a level playing field for the Net Zero Carbon agenda. Achieving Net Zero must involve the supply chain to ultimately ensure that the very highest standards are being delivered industry-wide. This is a fundamental challenge, but has tremendous opportunity if tackled as a collective. Therefore, to meet the goals of the 2015 Paris Agreement we believe decisive and collective action is key. We believe companies that have begun a process of transformation to Net Zero will be critical in delivering the opportunities presented by achieving these goals.

Through the signing of the Business in the Community Climate Pledge, Henry Brothers along with other businesses in Northern Ireland, are leading the way to a new future which is ambitious but necessary to secure a sustainable future.

We have navigated our way through a global pandemic, this is unchartered waters for all businesses, and we have had to adapt to new ways of working. We must take the opportunity and the lessons learned during this period of adaptation and use this as an opportunity to build back better.

The launch of our 'Journey to Net Zero' strategy is the next step on our journey towards a low carbon future and we are optimistic for what that future will look like.

David Henry

David Henry
Managing Director

JIM HENRY
CHAIRMAN EMERITUS

EXECUTIVE SUMMARY

Since the UK government declared a climate emergency in 2020, companies are being called to action and are rallying in the fight against climate change.

Henry Brothers have announced our commitment to reduce emissions by 50% from the base reporting year, by the year 2030 and to achieve 100% by 2050 in line with Government requirements.

This strategy is a guidance document which will provide an outline of our action plan to achieve these targets. Henry Brothers launched the five-year Sustainable Business Strategy in 2014 which set a target of a 5% reduction in total greenhouse gas (GHG) emissions per annum. The Group has reduced total GHG emissions by -34% since the baseline reporting year, exceeding the target by 9%.

ANTRIM CASTLE GARDENS PROJECT, ANTRIM BOROUGH COUNCIL

Henry Brothers have aligned the business targets to the UN Sustainable Development Goals, creating a shared value for our clients and communities while safeguarding our planet.

We will monitor progress to ensure we are on track to achieve our target of Net Zero by 2050. This long term strategic plan will assist in achieving this with the main focus on elimination of emissions as a priority; and only offset once we have exhausted all other avenues.

IMAGE OPPOSITE: STEMLAB UNIVERSITY PROJECT, LOUGHBOROUGH UNIVERSITY

ENVIRONMENTAL TARGETS

- 34% reduction in total GHG emissions achieved through the first Sustainable Business Strategy 2014- 2019.
- Aligned our Environmental Targets to the Sustainable Development Goals in 2020
- Developed and rolled out Carbon Literacy Training in 2021
- Student research project demonstrating innovative environmental research annually with the 2020 and 2021 projects focusing on carbon
- Establishment of a Contractor Sustainability Professionals Forum

WHERE DO WE GO FROM HERE?

- Verification through ISO 140641:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
- Annual reporting and measuring through Streamlined Energy Carbon Reporting and through the annual Business in the Community Environmental Benchmarking Survey

CONTEXT

Human activities are estimated to have caused 1°C of global warming above preindustrial levels and unless drastic action is taken, we will surpass the 1.5°C threshold in the next 30 to 50 years. The risks associated with global warming above 1.5°C represent significant risks to the systems upon which we depend.

Global emissions over the next few decades will shape our planet for centuries to come. The construction industry accounts for approximately 40% of total UK carbon emissions. Moving buildings and the construction sector to a low-carbon pathway will assist in slowing climate change and will deliver strong economic recovery benefits, therefore it should be a clear priority for all governments and businesses.

STEMLAB, LOUGHBOROUGH UNIVERSITY

The buildings we are constructing today will be in place in 2050. This means we must put our plans into action now, taking our clients on the sustainability journey, educating site teams, and having influence over design to ensure the buildings carbon is high on the agenda, ensuring the most sustainable, feasible option is constructed.

KEY EMISSION CATEGORIES RELATED TO CONSTRUCTION

01 Operational Emissions

28% of global emissions are linked to buildings in use including heating, cooling and lighting.

02 Embodied Carbon Emissions

11% of the world's emissions are linked to the materials manufacturing and construction processes. Every material releases greenhouse gases through the supply chain and this is typically measured from factory inception to final use on site (e.g. steel (by weight) has a much higher embodied carbon footprint than concrete).

ABOVE: ANTRIM CASTLE GARDENS

The construction industry has a vital role to play in mitigating the impact of construction, but we also have a responsibility to influence and educate our clients and supply chain.

WHAT DOES NET ZERO MEAN?

Achieving Net Zero is a balance between emissions produced and removal of greenhouse gases, as set out in the Paris Agreement.

Henry Brothers were highlighted as one of the few businesses who signed up and reported emissions to the Business in the Community Environmental Benchmarking Survey for 23 consecutive years, demonstrating a long term commitment to reducing the impact of our operations.

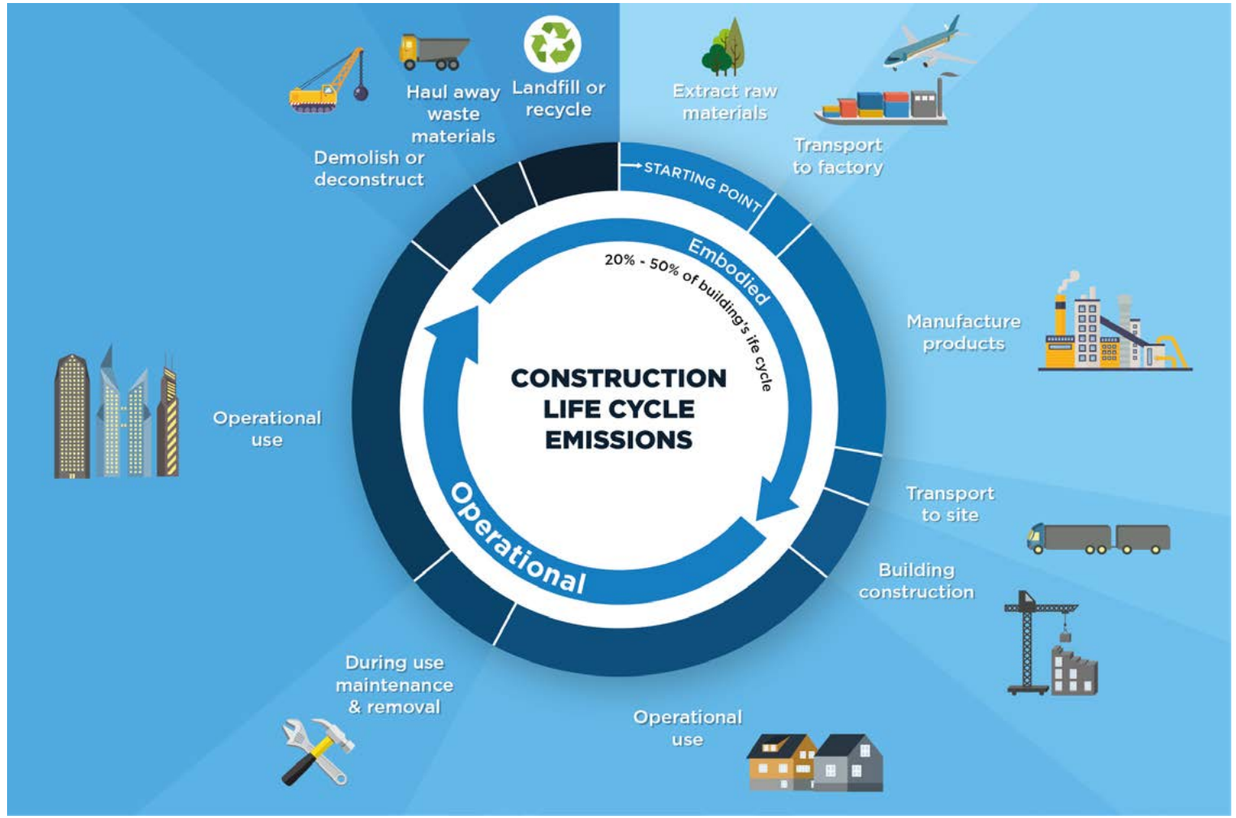
Reducing carbon is not a new concept, certainly not for Henry Brothers, as we have been working to be more environmentally sustainable since as far back as 1998.

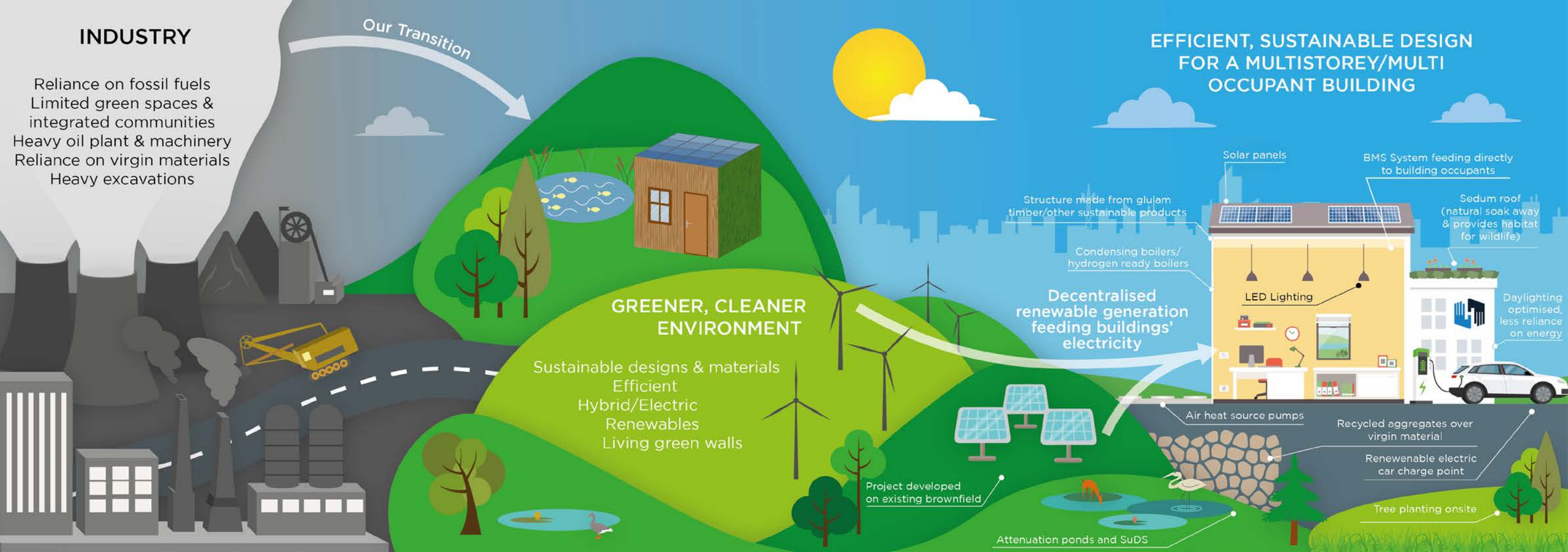
NET ZERO DEFINITION

The UK Green Building Council defines 'Operational Emissions' and 'Embodied Carbon Emissions' as:

Operational Emissions: In construction, combining a fabric first approach to minimise energy usage, bolstered with carbon offsetting, is considered the most economical way to achieve the Net Zero Carbon target. Carbon offsetting is the approach that the legislation has generally taken for reducing carbon emissions in construction. When all feasible measures for reducing carbon impacts have been reasonably exhausted, offsets can be used to cover any residual carbon.

Embodied Carbon Emissions: The fabric first approach does not necessarily take into account the construction embodied carbon, which remains an aspirational target within the construction industry at present. To fully understand the impacts of one material or system compared to another, a whole-building life-cycle assessment would need to be undertaken. This process looks at multiple impacts of building materials over their entire life cycle (from factory to landfill/ recycling).



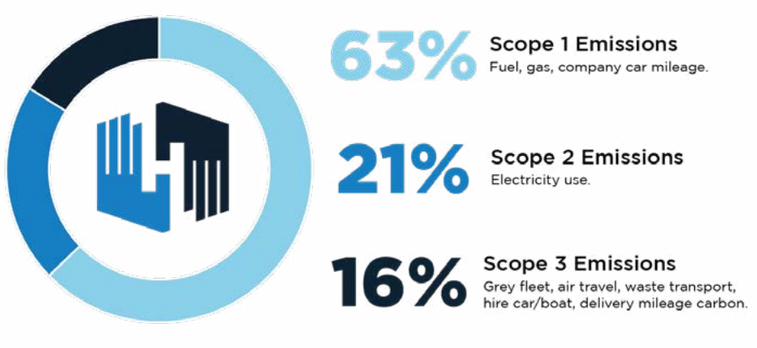

INDUSTRY
Reliance on fossil fuels
Limited green spaces & integrated communities
Heavy oil plant & machinery
Reliance on virgin materials
Heavy excavations
Our Transition
GREENER, CLEANER ENVIRONMENT
Sustainable designs & materials
Efficient
Hybrid/Electric
Renewables
Living green walls
EFFICIENT, SUSTAINABLE DESIGN FOR A MULTISTOREY/MULTI OCCUPANT BUILDING
Solar panels
BMS System feeding directly to building occupants
Structure made from glulam timber/other sustainable products
Sedum roof (natural soak away & provides habitat for wildlife)
Condensing boilers/ hydrogen ready boilers
Decentralised renewable generation feeding buildings' electricity
LED Lighting
Daylighting optimised, less reliance on energy
Air heat source pumps
Recycled aggregates over virgin material
Renewenable electric car charge point
Project developed on existing brownfield
Tree planting onsite
Attenuation ponds and SuDS

SUMMARY OF HENRY BROTHERS ENERGY DATA

In the last reporting period, year end 2021, the highest emissions arose from fuel usage. This was mainly from onsite diesel used for mechanical dumpers and excavators, forklifts and telescopic hoists, compressors, and generators, including fuel used to refuel company vans and cars at the Head Office fuel pumps. This is listed under Scope 1 emissions.

The second highest contributor was arising from electricity at the main offices. This is logged as Scope 2.

The third highest emissions are arising from the sites electricity use, which is logged under Scope 2.



63% **Scope 1 Emissions**
Fuel, gas, company car mileage.

21% **Scope 2 Emissions**
Electricity use.

16% **Scope 3 Emissions**
Grey fleet, air travel, waste transport, hire car/boat, delivery mileage carbon.

We are working with our supply chain to continue to collate and report on our Scope 3 emissions.

IMAGE: ENTERPRISE INNOVATION CENTRE, NOTTINGHAM TRENT UNIVERSITY

HENRY BROTHERS NET ZERO OBJECTIVES

"BECOMING A NET ZERO BUSINESS MEANS WE ARE REDUCING EMISSIONS FROM OUR OPERATIONS AND FROM THE PRODUCTS WE CONSTRUCT FOR OUR CLIENTS AND END USERS.

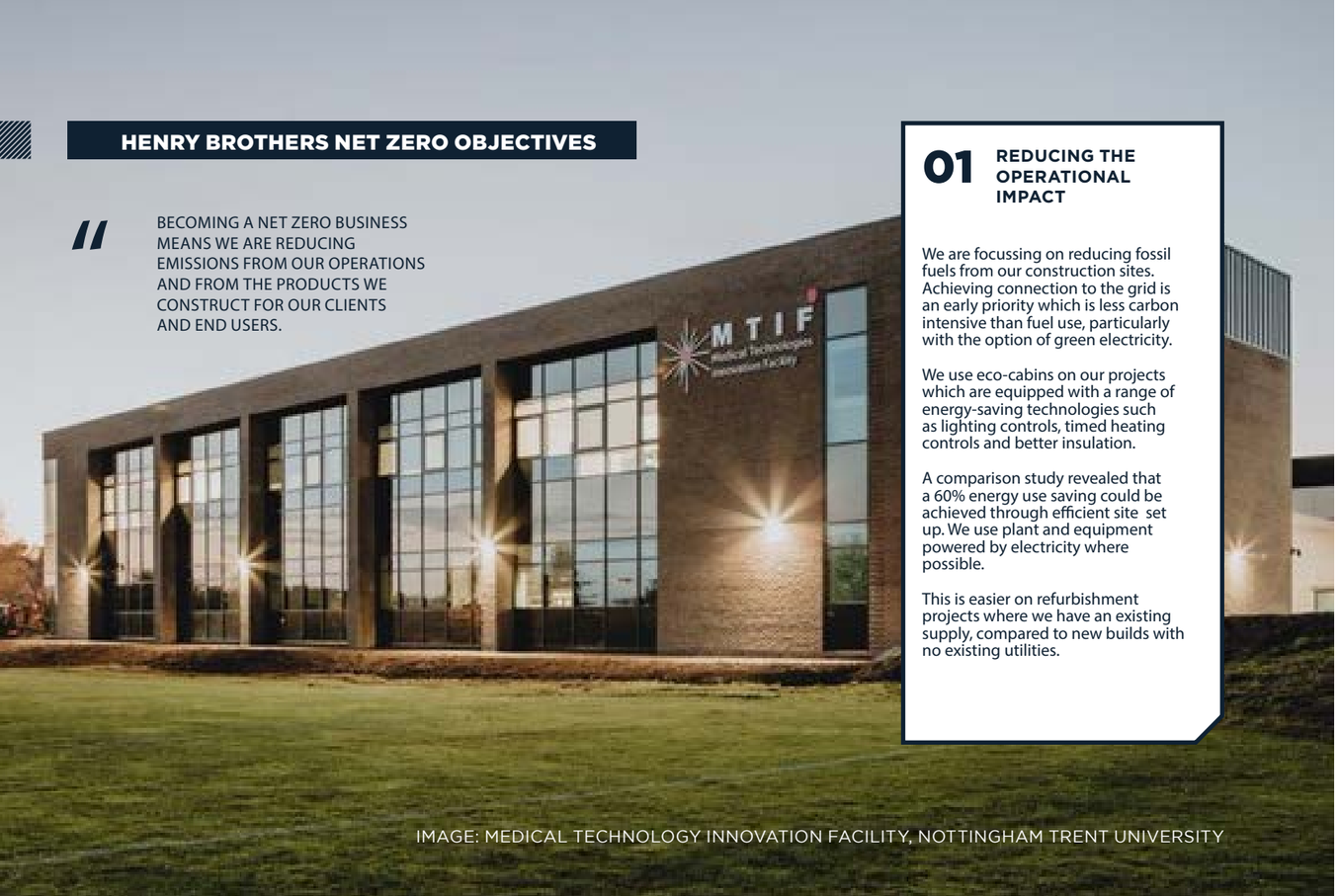


IMAGE: MEDICAL TECHNOLOGY INNOVATION FACILITY, NOTTINGHAM TRENT UNIVERSITY

01 REDUCING THE OPERATIONAL IMPACT

We are focussing on reducing fossil fuels from our construction sites. Achieving connection to the grid is an early priority which is less carbon intensive than fuel use, particularly with the option of green electricity.

We use eco-cabins on our projects which are equipped with a range of energy-saving technologies such as lighting controls, timed heating controls and better insulation.

A comparison study revealed that a 60% energy use saving could be achieved through efficient site set up. We use plant and equipment powered by electricity where possible.

This is easier on refurbishment projects where we have an existing supply, compared to new builds with no existing utilities.

02 SUSTAINABILITY PROFESSIONALS FORUM

Henry Brothers established the Sustainability Professionals Forum. This collaborative platform engages main contractors in Northern Ireland to discuss and act on common issues in relation to sustainability.

Together we have produced many useful shared documents including Sustainability Guidance for Subcontractors, Toolbox Talks and the development of a Carbon Literacy Training Course for Construction, to help reduce our collective carbon footprint.

03 CARBON LITERACY TRAINING

Henry Brothers developed and financed a Carbon Literacy Training Course in conjunction with three other contractors in Northern Ireland, Business in the Community and Keep Scotland/Northern Ireland Beautiful.

This course helps attendees to make the link between their own lives and climate change, in addition to acquiring the knowledge to lower their carbon footprint, with typical realised carbon savings of 5–15% per person.

Carbon Literacy Training on an organisational level, will result in decreased energy and resource consumption, improved organisational profile, lower variable costs and happier and healthier staff.

04 REDUCTION OF FUEL RELIANCE

Our Journey to Net Zero Strategy plans for future change which includes a move away from reliance on fuel on site and towards alternative fuels and electric plant.

To date, 33% of company cars have become hybrid or fully electric and we continue to make progress with a target of 100% electric or hybrid by 2025.

Action: To reduce and replace fossil fuel use on sites

Interim commitment: To encourage the supply chain to use alternative fuels through communication of this strategy.

05 R&D PROGRAMME WITH QUEENS UNIVERSITY

The Henry Brothers Research & Development Programme with Queen's University is the main innovative programme within the business.

Each year research generated is shared with the industry to promote best practice and knowledge sharing on sustainability.

The programme is now in its 6th year, several projects have been conducted, including, 'Creating a Sustainable Supply Chain within Construction', 'An investigation into the use of plastics within the construction industry and supply chain' and 'A comparative assessment of the C02e Emissions associated with prefabricated and insitu construction techniques'.

06 TREE PLANTING SCHEME

Through the Queen's University Partnership, the 2021 research project conducted an 'investigation of carbon offsetting strategies for reducing residual CO_2e emissions and achieving net zero goals'.

This report concluded that afforestation was the preferred methodology for the company, when compared to peatland restoration over a 100-year period.

It was found that 1,000 tonnes of CO_2 could be offset within the first 10-year period based on an area of company owned land.

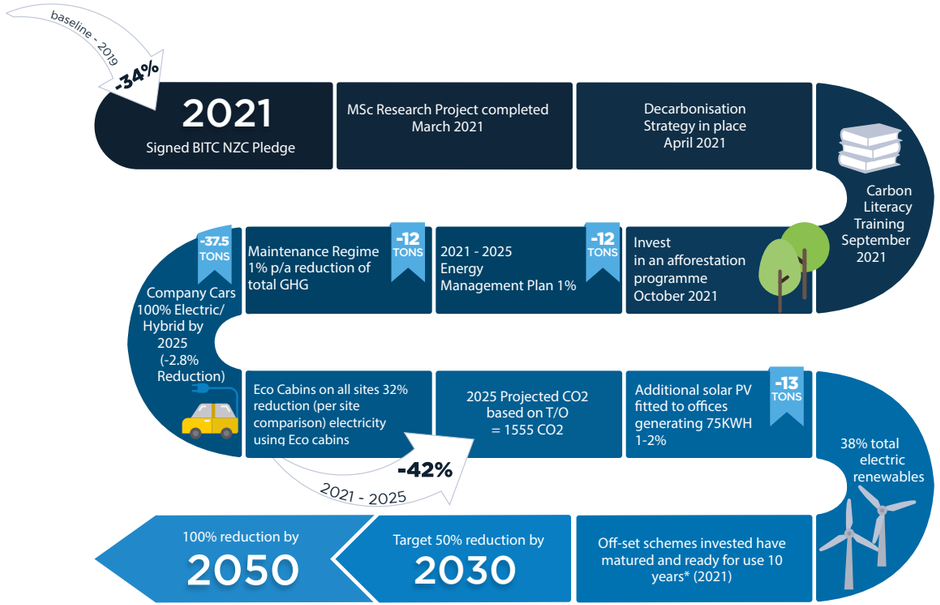
This research was invaluable and has shaped business planning for the future when offsetting will inevitably be the last resort to tackle the emissions which cannot be eliminated.

07 TRANSPARENT REPORTING & DISCLOSURES

Henry Brothers have developed a methodology for the quantification and tracking of our GHG emissions and have clear reporting structures in place.The data is imperative in analysing and highlighting the target areas in the business where improvements can be made. Some of the objectives and actions to achieve these improvements are more mature than others, but collectively this strategy will assist as we manoeuvre through the new Net Zero Normal.

Through clear and transparent reporting, our sustainability targets are on track. Annual reporting through the Streamlined Energy Carbon Reporting (SECR) has assisted us in driving carbon emissions down annually. The next step is to achieve verification through an internationally recognised standard for GHG reporting ISO 140641:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

TIMELINE TO NET ZERO CARBON 2050

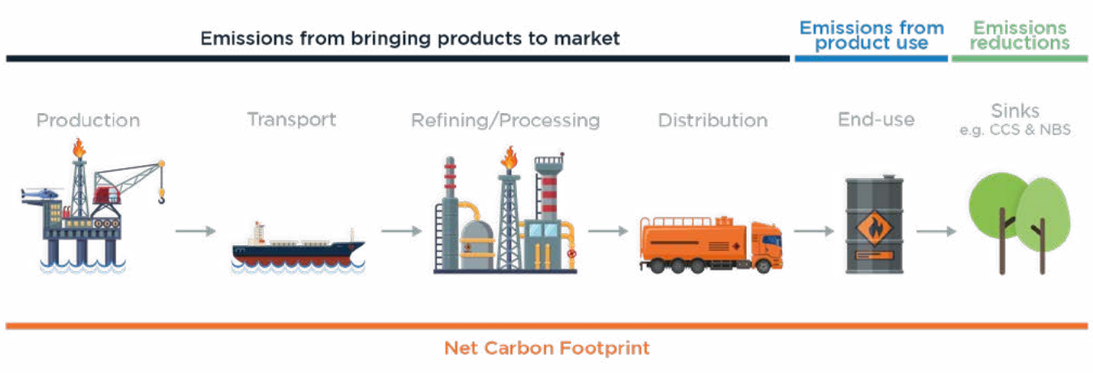


*1,000 tonnes after 10 years of afforestation

REDUCING EMBODIED CARBON

Henry Brothers deliver projects to BREEAM and DREAM Excellent. Environmental Assessments such as BREEAM and RICS Whole Life Carbon Assessment deliver buildings with a fabric first approach whilst analysing the embodied carbon of the components and materials used within the building. This enables us to understand the impacts of one material or system compared to another.

The diagram below highlights the carbon emissions that are associated with materials and construction processes throughout the whole lifecycle of built assets. The construction process, including the sourcing of materials and their conversion into products, systems, and buildings as well as transport and site works is a significant source of embodied carbon. Using assessments such as RICS Whole Life Carbon can help to measure and ultimately reduce embodied carbon emissions in the future.



NET ZERO CARBON PROJECT

The Staffordshire Forest Nursery Project for Staffordshire University, is the first Net Zero Carbon Project that Henry Brothers has delivered and we are using this as a flagship project which will shape future projects. The building is designed and constructed using the RICS Whole Life Carbon Assessment Tool. The construction stage emissions calculated will be offset at project completion.

> A BENCHMARK FOR OUR FUTURE SCHEMES.

SUSTAINABLE FEATURES INCLUDE:

- Lower carbon Glulam FSC certified timber frame.
- Air source heat pump heating (efficiency of 300% reducing the electrical load and will benefit from future grid decarbonisation).
- Earth tube passive cooling utilised, eliminating energy intensive mechanical cooling.
- Roof mounted solar PV will assist in offsetting associated carbon emissions
- Henry Brothers managed the design team to conduct life cycle analysis.
- SustainIQ innovative carbon footprint recording which captures employee mileage to site and transport carbon of all materials to site.

IMAGE: STAFFORDSHIRE FOREST NURSERY PROJECT, STAFFORDSHIRE UNIVERSITY

NET ZERO FRAMEWORK

Henry Brothers NZC Framework	Action	Details/Exclusions	Reporting Mechanism	Timeframe	Progress
01 DETERMINE SCOPE	Scope includes group operations scope 1, 2 and 3 emissions.	Scope 3 emissions are working progress. Transmission losses in scope 2 not included.	Streamlined Energy Carbon Reporting since 2019.	Ongoing	ACHIEVED
02 MEASURE AND MONITOR	Procure electronic system for reporting.	SustainIQ platform procured and rolled out companywide.	Sites and offices reporting of: • Energy use • Waste • Transport emissions • Water	2018	ACHIEVED
		Reporting procedures developed and rolled out to staff.		2018	
		New E&Q team member to monitor use and report to E&Q Manager.		2021	
03 STRATEGY FOR REDUCTION 2014-2019	Installation of solar PV panels	540 Tonnes $C0_2$ saving over 20 years		2017	ACHIEVED
	Procurement of hybrid fleet 33% of company car fleet hybrid or electric	Reduction in fuel use * reduction reported over the last three years -14%		2018	
	Energy Audit and quick wins implemented	Energy Assessor brought in to assist with ESOS and recommendations provided		2015 Phase 1 2019 Phase 2	
	MSc research on sustainability	Collaboration with Queen's University Belfast: For the last seven years, Henry Brothers has sponsored and mentored MSc students to conduct innovative research into Sustainability.		Ongoing	

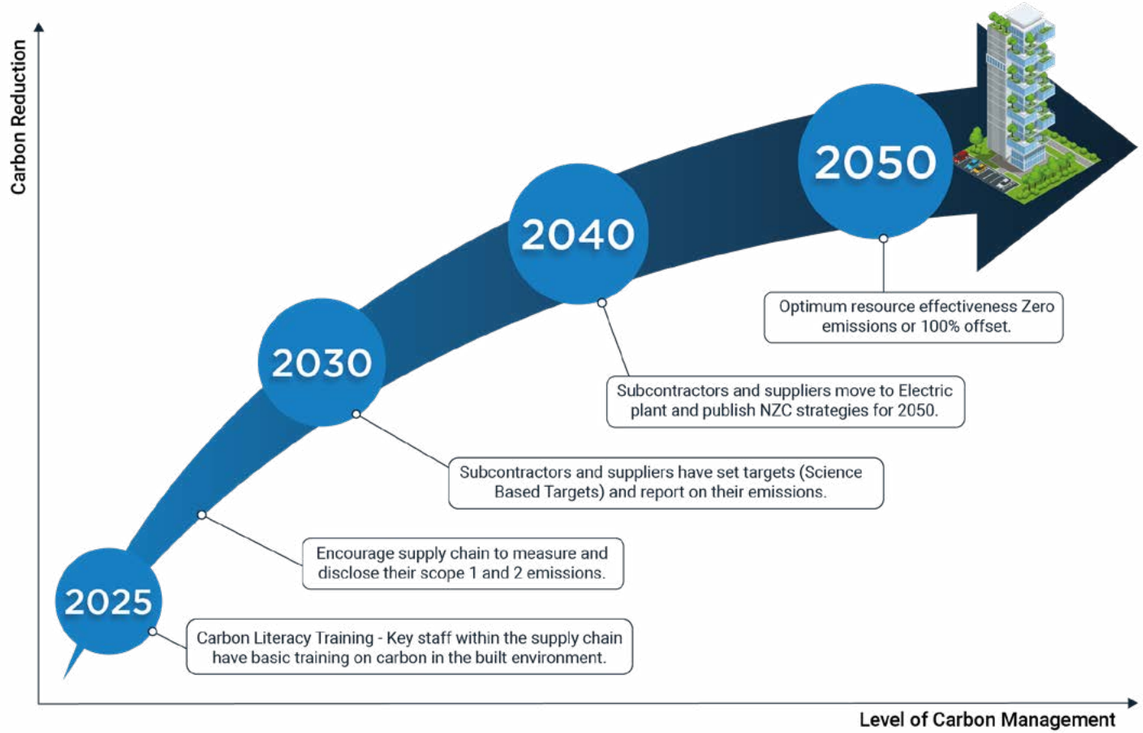
Henry Brothers NZC Framework	Action	Details/Exclusions	Reporting Mechanism	Timeframe	Progress
04 2021-2030 STRATEGY	Commitment to 2% reduction per annum Net GHG emissions	Reduction commitments to 2030:			
		• Eco Cabins *60% saving of energy use through efficient site set up (based on comparison case study)	Henry Brothers have committed to only using Eco Cabins on sites.	In place	IN PROGRESS
		• Land holdings planting scheme* (research study demonstrates a potential for 1000 tonnes of CO_2 saving after 10 years).	Grant funded tree planting scheme.	By Q4 2021	
		• Maintenance regime accounts for 1% CO_2 saving per annum.	Maintenance regime with 6 monthly and quarterly checks.	In progress	
		• Carbon Literacy Training (typical realised carbon savings of 5-15% per person).	Course to be developed and rolled out to senior management. First accredited course of its kind to be developed in Northern Ireland as a collaborative industry effort. The course is due to be rolled out this summer across all the respective companies.	By Q4 2021	
		• Replacement of plant strategy by the Group Plant Manager to ensure only efficient plant is used.		Ongoing	
		• Biodiversity 2% enhancement per annum.	Recognising that Biodiversity loss is by far the greatest threat to existence and an imperative environmental risk, we continually exceed statutory requirements to preserve and enhance the local environment in line with biodiversity commitments to the Business and Biodiversity Charter, of which the Group is a Platinum member.	Next audit due Q3 2021	ACHIEVED
	Environmental certifications	• Drive low carbon projects through environmental certifications/ influence client through tender responses	60%+ of projects over the last 5 years have been CEEQUAL/DREAM/BREEAM accredited	Ongoing	ACHIEVED

SUPPLY CHAIN CARBON MATURITY MODEL

Scope 3 emissions take into consideration the carbon footprint generated by the supply chain, therefore tracking and reducing these emissions is key for the construction industry to meet the 2050 Net Zero Target. These emissions are referred to as Scope 3 emissions or supply chain emissions, because they take into consideration the carbon footprint generated by the supply chain.

Upskilling and educating our supply chain is key to meeting the Net Zero Target 2050. Henry Brothers plan to upskill our supply chain through educating them on the Net Zero Agenda, and through gradually adding requirements to contracts, therefore giving sufficient time for supply chains to make the necessary changes to meet the Net Zero Target.

ENTERPRISE INNOVATION CENTRE, NOTTINGHAM TRENT UNIVERSITY



SustainIQ

A key aspect of the Net Zero Carbon Strategy is the innovative software we use to collate the company carbon footprint.

SustainIQ has an integrated reporting dashboard which provides a visual real time view of the quantitative data which can be exported.

This software enables us to report on our sites, offices and factories carbon footprint with a detailed breakdown of carbon use throughout the business.

IMAGE: TRANSLINK
MILEWATER SERVICE CENTRE
PROJECT, TRANSLINK

NATURE PARK & EDUCATION PROGRAMME

HENRY BROTHERS NATURE PARK

Henry Brothers has a 26-acre nature park which is a key element of our Biodiversity Strategy, specifically, educating the next generation of environmentalists. We offer local schools an Environmental Learning Programme in partnership with Ulster Wildlife, which allows pupils to learn outside the classroom in nature, with the donation of learning aids such as nature information boards, mini-beast hotels and bird tables. In total, Henry Brothers have engaged over 5000 students through pre-covid school visits to educate on biodiversity and environmental lectures to university students.

An interactive video was recently developed for local primary schools, to allow students to continue to learn about biodiversity during the COVID-19 pandemic and engage them in conversations about animal life cycles, food chains and flora and fauna found within woodland habitats. Current responses show the video to have reached 550 students throughout the local area.

Biodiversity also plays an important role in Henry Brothers Net Zero Carbon Strategy, particularly as we recognise the importance of woodlands for carbon sequestration. The enhancement and preservation of the company's nature park, which includes 50,255.97m^2 of tree cover, is an important element which can be used to offset residual emissions.

IMAGE: SCHOOL VISIT TO HENRY BROTHERS NATURE PARK

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