GRAHAM

Constructing a sustainable future

2024

graham.co.uk

Welcome to our Environmental Sustainability Strategy 2024

At GRAHAM we are passionate about "delivering lasting impact" and sustainability is at the centre of everything we do. Our environmental mission is "to help protect and improve the environment, conserve resources and tackle climate change for the benefit of current and future generations" and this is fundamental to how we do business.

We've aligned what we do with the United Nations Sustainable Development Goals (UN SDGs) so that we can play our part in contributing to a better world. We're also investing in the technology and digital tools necessary to help us achieve our environmental sustainability ambitions. As a responsible business, we believe that it is key for our people to fully understand the climate emergency and the consequences that our decisions can have on environmental sustainability. For this reason, we continue to invest in the delivery of environmental and climate emergency training amongst our people.

Climate action is a key priority to us. It is business critical and embedded in all business-related decisions. We recognise the implications for the future of our planet and the consequences where we do not move fast or decisively enough to tackle the climate crisis. For this reason, we are continuing to make strong, rapid and sustained reductions in greenhouse gas emissions. By focusing on net zero and integrating the impact of climate related risks and opportunities into our business strategy, we understand that we will be better equipped for the future.

This strategy has been set out to outline the GRAHAM vision for delivering positive environmental impacts. It describes our main areas of environmental focus, our ambitions and our progress to date. It also sets out how we will progress our environmental ambitions through our Environmental Sustainability Action Plan and our Net Zero Action Plan. In this way we're already considering what GRAHAM will look like in 2030, 2040 and beyond. This strategy will be reviewed on an annual basis with progress reported to our board directors and regional management teams monthly.

Andrew Bill
Group Chief Executive Officer

GRAHAM

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Our Environmental Sustainability Framework

The GRAHAM guiding principle is

Delivering lasting impact

This feeds directly into our environmental mission:

'To help protect and improve the environment, conserve resources and tackle climate change for the benefit of current and future generations'.

KEY FOCUS AREAS

Our environmental agenda is organised into four key focus areas.

Against each of the components, we have clear ambitions and actions that focus our activities on areas where we can make the most positive impact, or where we can minimise the risk of negative environmental impacts.

Alignment with the Sustainable Development Goals (SDGs)

These key focus areas are aligned with the following United Nations Sustainable Development Goals:

Governance

GRAHAM has embedded a robust Environmental, Social Governance Framework at the centre of our operations.

BOARD OF DIRECTORS

The Board of Directors have overall responsibility for all climate related and environmental sustainability matters.

Key Responsibilities

- Review environmental and climate-related risks and opportunities as part of its risk management and business strategy considerations
- Review environmental sustainability and climate related reports from the ESG Committee
- Provide direction in ESG priorities and action

ESG COMMITTEE

A board level committee/ steering group meets monthly and oversees Environmental Sustainability within the Group. The committee receives monthly updates from the Head of Environmental Sustainability in regard to alignment with plans and progress toward the achievement of targets. Its members include the Managing Directors of each of the business units and the Chief Financial Officer.

Key Responsibilities

- Monitor progress against set environmental sustainability and climate related ambitions, plans and targets
- Review and approve environmental sustainability proposals
- Assist in promoting environmental sustainability and climate action throughout all facets of the organisation
- Provide input for identification of TCFD risks and opportunities
- Review and assist in mitigation of climate-related risks
- Review and assist in delivery of climate-related opportunities
- Oversee and provide direction to the Environmental Team and working groups

ESG Committee Members

- Director of Corporate Development (Chair)
- Group Chief Financial Officer
- Managing Directors
- Pre-Construction Directors
- HR Director
- SHE Director
- Head of Environment

WORKING GROUPS

Membership of working groups comprises a selection of operational managers from each region and division and environmental managers from across the group. The working groups provide feedback to the environmental team and help provide assistance in the delivery of environmental sustainability initiatives.

Working Group Members

- Procurement
- HR
- Business Development
- Marketing
- Social Value
- Environment
- Health and Safety

ENVIRONMENTAL TEAM

Key Responsibilities

- Identify and deliver environmental sustainability proposals and initiatives
- Identify and mitigate climate-related risks
- Identify and deliver climate-related opportunities
- Develop and update environmental sustainability risks and opportunities
- Develop and update TCFD risks and opportunities

Business Unit Governance

An Environmental Sustainability Manager is dedicated toward each operational division and is responsible for providing direction and innovation at all levels within their business unit. Each Environmental Sustainability Manager reports to the leadership team within their business unit, ensuring alignment with organisational priorities and ambitions.

Taking Positive Action on
Environmental Sustainability

Our strategy focuses on specific priority areas, which will help us to achieve our ambitious targets. These are the foundations that we're putting into place in order to successfully deliver on our targets:

- Management of Climate Risk and Opportunity
- Biodiversity and Nature Based Solutions
- Implementation of Circular Economy Solutions
- Alignment to PAS2080
- Net Zero Buildings and Infrastrucure
- Carbon Data Management
- Adoption of Modern Methods of Construction
- Alignment to ISO 20400
- Sustainability Communications and Campaigns
- Implementation of an ISO 14001 EMS
- Industry Collaboration
- Carbon Reduction Certification
- Zero Diesel Sites
- Energy Management
- Responsible Plastics Management
- Climate and Decarbonisation Training (Internal and External)

CASE STUDY 1

Enhancing our scope 3 data
Recognizing scope 3 as a critical element in the path to net zero, we have extended the measurement of our emissions to all scope 3 emission sources including purchased goods and services, upstream transport, waste, business travel and employee commuting. This revised GHG inventory has been externally verified to the Achilles Carbon Reduce scheme in accordance with ISO 14064-1:2018. Building upon this baseline our work is ongoing in improving data quality and completeness across these emission sources.

Targets

Our Environmental Sustainability Agenda centres on four key areas of focus:

- Climate Action
- Conserving Resources
- Environmental Management and Improvement
- Protecting the Environment

GRAHAM KEY TARGETS FOR ENVIRONMENTAL SUSTAINABILITY

Within these areas of focus, we have established short and long-term targets designed to accelerate our transition away from fossil fuels to enhance decision making, based on whole life cycle emissions and to significantly reduce waste from our processes. Our aim is to make a meaningful contribution to the world around us.

- Net Zero Carbon Emissions by 2030 *(direct emissions)*
- Net Zero Carbon Emissions by 2040 *(full value chain)*
- Maintain Zero Construction Waste to Landfill
- Achieve Zero Avoidable Waste by 2040
- Reduce Mains Water Consumption by 50% by 2030
- Increase the Number of Biodiversity Actions by 50% by 2030

Working collaboratively on

Environmental Sustainability and Net Zero

Partnerships and collaboration are crucial in taking meaningful steps toward positive environmental impacts. We are embracing these strong partnerships and are working together with clients, policy makers, subcontractors, peers, and other stakeholders on sustainability and climate issues.

MEMBERSHIPS

Our collaborative work on climate action includes our Partner Membership of the Supply Chain Sustainability School (SCSS). Through this, we actively encourage our supply chain to participate in the school's climate carbon reporting and net zero training.

GRAHAM's CORPORATE COMMITMENT TO CLIMATE ACTION

- We have committed to set a Science Based Target through the "Science Based Targets Initiative"
- We have been selected as a "Construct Zero Business Champion" within the Construction Leadership Council's Construct Zero programme
- We have committed to the "Pledge to Net Zero"
- We have joined the "Contractors Declare" movement
- We have committed to the "BITCNI Climate Action Pledge"

COLLABORATIVE WORKING

As members of the Supply Chain Sustainability School's Climate Action Group, and the Construction Employers Federation's Construct Zero Task Force, we are continuing to work with our peers to address climate change.

Targeting Zero Diesel Sites by 2030

To achieve Net Zero by 2030 (Scope 1 & 2), an annual 12.5% reduction in GHG emissions across our entire project portfolio has been targeted. To ensure that this is achieved, programmes and initiatives are put in place on each contract to achieve the required carbon reductions.

HIGHLIGHTS

- **23%** of all fuel purchased last year was renewable diesel (*which achieves **up to 90% reduction** in greenhouse gas emissions over its lifecycle*)
- Use of fossil diesel across GRAHAM sites has been **reduced by 18%**

A site-specific Environmental Sustainability Action Plan (ESAP) is completed at the earliest stage possible to facilitate the identification of opportunities, which are likely to enable positive environmental outcomes. Prior to commencement on site, an Energy and Carbon Management and Reduction Plan is also drawn up, detailing site-specific energy efficiency and carbon emission reduction activities. These plans include site specific strategies for the key areas detailed below.

1. Load Profiling and Power Planning
2. Early Grid Connections, Replacing Generators
3. Cabin Zoning within Temporary Electrics
4. Batteries with Generators
5. Alternative Fuels
6. Use of Solar PV
7. Accelerating the Shift to Zero Emission Plant and Vehicles
8. Guidance and Training for those in Key Job Roles
9. Low Carbon Lighting
10. Site Energy Audits
11. Energy Efficient Cabins
12. IOT Solutions to Manage Energy Consumption
13. Digital Tools
14. Measuring and Benchmarking Site Performance

Targeting Zero Diesel Sites by 2030

Below is a snapshot of how we are working towards zero diesel sites:

CASE STUDY 2

Transitioning to Zero Diesel Plant

Whilst there are still limited zero carbon plant options (particularly for heavy machinery) we're making good use of what technology solutions are currently available.

CASE STUDY 3

Controlling and Reducing Energy Demand

We've successfully used the Eco-Lync system to lower the energy demand created by appliances within site offices, such as kettles, screens, heaters etc. Through wireless sensors, we were able to automatically switch appliances and equipment off when not in active use.

CASE STUDY 4

HVO use at Milton Keynes

As part of our strategy to eliminate diesel from our construction sites, our Milton Keynes project was one of a number of projects which were early adopters of the use of HVO (Hydrotreated Vegetable Oil) as a substitute for gas oil. In total the site saved over 150 tonnes of CO_2e by substituting diesel for the renewable, ISCC certified HVO product.

Decarbonising our buildings

Around 3% of our scope 1 and 2 emissions comes from our buildings and we are working to decarbonise these sites. The performance of our buildings is closely monitored via Cora, BMS (where available) and improvements are identified during regular energy audits. We are also committed to sourcing 100% renewable energy backed by Renewable Energy Guarantees of Origin across all of our offices. As part of our Net Zero Plan we're also identifying opportunities to replace fossil fuel powered technology with renewable alternatives. For example, we are currently exploring the feasibility of installation of PV panels on the roof of our head office building.

CASE STUDY 5

GRAHAM Headquarters

Our own GRAHAM Headquarters sets an excellent example of how to achieve a low carbon building and serves as an important blueprint for our business. The building is orientated to reduce heat demand in winter and heat gains in summer. Natural ventilation is achieved through automatic louvres and controlled via a BMS system. Automated controls exist within the central atrium to create passive stack ventilation and concrete pillars and exposed concrete ceilings increase thermal mass.

Natural lighting is maximised through a glass roof, and only energy efficient light fittings are utilised, controlled via presence detectors. A biomass boiler has been installed equating to carbon savings in the region of 58 tonnes per annum and most recently EV charging points have been installed.

The building was EPC A rated, certified as "BREEAM Excellent" and has an impressive haul of accolades to its name including three "most sustainable building" awards. The building has an exceptionally low energy demand, all of which is obtained via zero carbon electricity.

Expertise in

Net Zero Buildings and Infrastructure

In the UK, the built environment (the construction and operation of buildings) is responsible for nearly 40% of overall emissions. The construction sector therefore has a critical part to play in the climate emergency through the design and delivery of net zero carbon buildings.

At GRAHAM we have a rich history when it comes to constructing iconic buildings. The creation of places with net positive impacts for the environment and communities is at the core of what we do. We understand that net zero energy and zero carbon buildings must become the primary form of building construction and we are advocating for this.

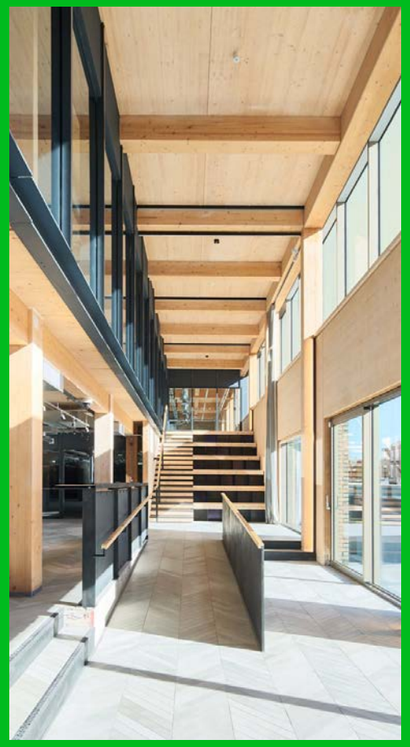
Aligned to the UK GBC Net Zero Carbon Buildings Framework Definition for net zero carbon buildings and the London Energy Transformation Initiative Targets, we are working with and supporting our clients to achieve a low carbon future.

We have committed to identify to our clients, for all new buildings, operational and embodied carbon efficiency enhancements during the tendering process.

Where we have the opportunity to design and deliver net zero for our clients our approach includes the following:

Net Zero Carbon Building

- Use of Whole Life Carbon assessments to drive carbon reductions
- Use of low carbon products
- Ensuring that buildings are designed and built to be highly energy efficient during operation. This includes a fabric first approach, consideration of shading design, natural daylighting and ventilation and increasing the energy efficiency of buildings systems
- Ensuring that buildings are resilient to the impacts of our changing climate
- Working to achieve net zero emissions through onsite renewable installations and adding capacity to the grid via offsite renewable procurement.
- Ensuring that any remaining carbon balances are offset to achieve net zero carbon
- Ensuring that the carbon impacts of maintenance, deconstruction and the need for flexibility is considered within design



CASE STUDY 6

Carbon Reduction using Cross Laminated Timber

On a recent landmark commercial scheme comprising refurbishment, extension and new build offices, lightweight cross-laminated timber (CLT) and glulam beams were installed to increase the building from two to six storeys and an additional 5,900sqm of commercial office space.

Specifying timber as opposed to a heavier building material such as steel or concrete, allowed for minimal strengthening to the existing foundations, which were reused to support the additional four storeys. The 560 tonnes of CLT and 310 tonnes of glulam timber absorbed 1,066 tonnes of CO_2 while growing, yielding a negative carbon footprint for the material.

In addition to using materials which reduce the whole life carbon impact of the A1-A5 modules (as per the UKGBC net zero definition), all connections within the building are designed to be fully deconstructable, allowing for members and floor plates to be recycled on future developments and promoting reuse within a circular economy. This reduces impacts in C1-4 and D modules of the life cycle assessment.

CASE STUDY 7

Working to Net Zero Carbon in Construction and Operation Targets
On a current commercial office project, we are progressing works in line with the UK GBC 2025-2030 Interim Target for Net Zero Carbon in Construction and Net Zero Carbon in Operation. As such, we have defined targets for embodied carbon and operational energy.

A Whole Life Carbon (WLC) assessment was undertaken at RIBA Stage 2. Based on the early outputs from this assessment, the design was progressed in order to meet the defined targets for both the embodied carbon and operational energy.

Concrete was targeted as being one of the main contributors to the overall embodied carbon of the scheme. Through close collaboration and planning between GRAHAM and our civil/structural engineers, we were able to increase the cement replacement (GGBS) across the different concrete structural elements e.g. 35% GGBS replacement within the pile design mix and 50% GGBS replacement within the substructure and core walls. For the metal decked flooring concrete we utilised ECOplus C40, which offered a carbon saving of 175kgCO_2e/m3 compared with standard C40 concrete mix.

Whole Building Energy modelling has been conducted for the project. This accounts for off-axis scenarios including climate data, HVAC efficiencies and occupation load requirement. The building has been designed to meet the requirements of net zero in operation with highly efficient M & E equipment and services. Additionally the energy source is an independent sustainable energy centre.

CASE STUDY 8

Trialling Earth Friendly Concrete – M25 Jct28
40% of concrete emissions are through the cement manufacturing process. Therefore reducing the requirement for cement in a concrete mix is the most effective way of reducing the carbon footprint of concrete.

On 25th October 2022 a low carbon concrete alternative called Earth Friendly Concrete (EFC) was poured on the GRAHAM site M25 J28. This was the first pour of EFC on any GRAHAM and National Highways construction site. The EFC was used to create the paths which form the safe walkways of the project's site compound.

The EFC poured when compared to a CEM1 mix gave a 80.5% reduction in CO_2.

Cutting Vehicle Emissions

Performance
In FY 22/23 GRAHAM emitted **2,535 tonnes** of CO^2e relating to vehicle emissions from company cars and vans. Whilst this represents an increase from our baseyear, emissions during the baseyear were lower as a result of COVID-related restricted travel.

Programmes and Initiatives
Around **25%** of GRAHAM greenhouse gas emissions are derived from transport in our company vans and cars. Whilst access to mobility is fundamental to how we work and live, we understand that it is critical that we reduce the carbon associated with our business travel and transition towards more sustainable transport options.

SOME OF OUR PROGRESS TO DATE IN "TACKLING TRANSPORT" INCLUDES:

- Adopting an ultra-low emission company car policy (meaning that only fully electric or plug-in hybrids are available to eligible employees)
- Continuing to grow our provision of electric vehicle charging points across our offices and sites
- Fuel Efficient Driver Training rolled out across our office and site locations
- Installation of telematic systems to monitor fuel efficiency and reduce emissions
- Trialling fully electric vans – we are working to future-proof our operations and are reviewing how best to overcome the challenges associated with battery range and charging infrastructure.
- Supporting our employees in making positive environmental sustainability decisions. For example, we encourage staff to cycle to work and provide bike parking, showers and lockers at our head office

HIGHLIGHTS

- We have transitioned **63%** of our company cars to fully electric or plug-in hybrid

CASE STUDY 9

The GRAHAM Eco League
As part of our "Don't be Fuelish" campaign to incentivise fuel efficient driving, we are rewarding the most fuel-efficient van drivers each quarter with a £500 reward. Telematic data is used to determine the winner, and driver training made available to help minimise idling.

Using **Renewable Energy**

We have partnered with a not-for-profit energy management consultancy to procure new electricity connections for sites and offices. Planet First is one of the first social enterprises within the energy sector. Only "green" energy tariffs, where all energy is renewable, are sourced by our energy managers.

HIGHLIGHTS

- Last year we purchased **4,826 MWh** of renewable energy, backed by Renewable Energy Guarantees of Origin (REGO's).
- A digital energy database is used to monitor energy consumption data and streamline the analysis of performance
- A feasibility study to explore options towards a GRAHAM Renewable Energy Power Purchase Agreement (PPA) is underway

To ensure that our performance is fully understood, electrical consumption for both our sites and regional offices is graphically displayed against both the previous years consumption and the set target. The percentage change in consumption and (for each regional office) the electricity consumption per m^2 is also captured.

CASE STUDY 10

Achieving 100% Renewable Energy at Queen's Road, Nottingham

At the earliest opportunity the GRAHAM site team made contact with Planet First Energy in order to discuss and agree the procurement of energy supplies for the site. Planet First ensured that 100% of the energy procured on site was renewable. They tendered the energy requirements across 3 energy suppliers and secured a contract with EDF energy. This was on a tariff that was backed by full Renewable Energy Guarantees of Origin (REGO) certification, providing transparency to consumers about the proportion of electricity that suppliers source from renewable generation.

Certifying our GHG Emissions

Since 2019 we have met the requirements of the "Carbon Reduce" certification having measured our greenhouse gas emissions in accordance with ISO 14064-1:2018 and committed to managing and reducing our emissions in respect of our operational activities.

Achilles
Carbon Reduce Certified
Powered by Toitū Envirocare

In 2021 we expanded the scope of our certified emissions inventory to include ALL scope three emission sources, including purchased goods and services, upstream transportation and distribution, waste generated in operations and business travel and employee commuting.

GRAHAM carbon data is audited each year by Achilles, ensuring that there is confidence in our data and highlighting the organisational commitment to reduce our GHG emissions year on year.

CASE STUDY 11

Investment in digital tools for Environmental Sustainability

We're investing in the digital tools necessary to fully measure and monitor our sustainability impact, enhance visibility of our performance and drive action.

During design stage, we use One Click LCA software to review each element of construction in order to identify whether products with lower embodied carbon can be used as alternatives.

We have also made a significant capital investment in an innovative and bespoke software tool (Cora) to enhance the way we measure our energy and environmental performance on our projects and to identify trends.

Similar investment has been made in another digital software tool "Impact" for measuring our social value contributions.

EManage software is also used to identify where the largest emissions are being created and to help us set targets and KPIs for improvements and reductions.

Last year GRAHAM participated in the CDP benchmarking process for climate change and the gold standard for corporate environmental reporting. In our first year of disclosure, we received a B score which is higher than both the construction sector average and the global average score. Our score puts us in the management band and means we are taking co-ordinated action on climate issues. In addition, GRAHAM has held "Platinum Status" (the highest ranking) in the BITC NI Environmental Benchmarking Survey for over 8 years.

Benchmarking and awards

Business Eye Sustainability Awards 2023

GRAHAM were winners of two awards at the inaugural Business Eye Sustainability Awards – Built Environment Project of the Year and Best Sustainability Team of the Year.

Green Apple Awards 2022

GRAHAM were successful in the 2022 Green Apple Environmental Best Practice Awards with two different projects – The RVH Maternity and A47 Longthorpe Bridge and also won a commended award for the Pupil Referral Unit. In total, GRAHAM has accumulated 20 prestigious Green Apple Awards over recent years.

Constructing Excellence Awards 2023

We were named overall winner in the Northern Ireland Construction Excellence Awards 2022 in the "Excellence in Sustainability" category and were also shortlisted finalists in the South East England and Midlands West Constructing Excellence Awards under the category of "Net Zero".

The Big Biodiversity Challenge Award winner 2021

Announced on 15th September 2021, our project at Tilbury 2 was recognised in CIRIA's Big Biodiversity Awards as Project of the Year (Large - medium scale biodiversity enhancement 5 hectares and above) against tough competition. These sought-after awards acknowledge those projects which have done the most to advance biodiversity.

The Energy Institute's 2021 Awards

Against tough competition, GRAHAM were winners of the Energy Institute's 21st annual awards competition for our "Energy Management" entry. The EI Awards showcase organisations, projects and individuals of excellence in the energy sector. The judges were particularly impressed with the "high-level of commitment, innovation and potential" that GRAHAM were able to demonstrate.

The Green Awards 2021 (Green Large Organisation)

GRAHAM was awarded third place at the Green Awards 2021 under the "Green Large Organisation of the Year" category. Launched in 2008, the Green Awards recognise the extraordinary contribution and commitment that companies make towards growing a greener future in business today.

PAS 2080 Framework

GRAHAM projects are completed via processes which align with PAS 2080. In this way, we advocate that carbon across all the lifecycle stages of an asset are assessed and reduced. This avoids making a carbon reduction in one lifecycle stage which leads to an increase in carbon in a later lifecycle stage.

How GRAHAM work within the value chain to adopt and implement PAS 2080

Start Early
We play our part in ensuring that carbon is considered early in an asset's lifecycle to maximise scope for managing and reducing it.

Collaborate and Innovate
In order to achieve the greatest reductions in carbon, we promote and facilitate that all value chain roles, as identified in PAS 2080*, work collaboratively in the interest of achieving innovative low carbon solutions.
*Asset owner, designer, constructor and product/ material supplier

Baselines and Reduction Targets
We support asset owners in developing baseline data via collecting and sharing data during tendering and as design progresses. We co-ordinate with other value chain members to ensure that whole life carbon reduction targets set by asset owners are not only achieved but exceeded at all stages of delivery.

LIFECYCLE STAGES

A. Before Use
- Material/products
- Transport
- Construction

B. Use
- Use
- Operational energy
- Maintenance
- Repairs

C. End of life
- Deconstruction
- Transport
- Waste processing
- Disposal

BEYOND LIFECYCLE

D. Benefits & Loads

GRAHAM Carbon Management Process to align with PAS 2080

- A carbon reduction culture is promoted through our organisation
- We ensure that our own organisational carbon targets align and where possible, exceed those of our asset owners
- GHG emissions quantification is completed in line with PAS 2080 guidance
- Our design teams assess low carbon solutions (in outline and detailed design) using appropriate tools
- Carbon management principles are integrated into delivery systems via Cora, supply chain/ procurement processes and each project's bespoke "Energy and Carbon: Management and Reduction Plan"
- We ensure that low carbon selection criteria are embedded in procurement processes and are communicated clearly to suppliers
- We employ low carbon construction techniques/ products/ materials and challenge design teams as required to achieve low carbon outcomes

CARBON MANAGEMENT PROCESS

- **Target Setting**
- **Baselines**
- **Quantification**
- **Continuous Improvement**
- **Reporting**
- **Monitoring**

HIGHLIGHTS

- Following the release of the revised version of PAS2080 (2023) we are working towards external verification of our carbon management systems to the PAS standard. We are currently in the certification process with the expectation that we will achieve external verification by the end of 2023

TCFD Alignment

GRAHAM has set out climate-related financial disclosures consistent with all of the TCFD disclosures and recommendations. This includes the GRAHAM governance of climate-related risk and opportunity and how these risks and opportunities are incorporated into our business strategy and risk management processes.

Climate Change Governance

The GRAHAM Board of Directors has overall responsibility for how climate-related risks and opportunities are identified and managed. The board review environmental and climate-related risks and opportunities as part of its risk management and business strategy considerations. The board has also appointed an ESG committee which meets monthly to oversee climate risk, opportunity, and broader sustainability action throughout the business. The ESG committee ensures that sustainable action is driven through our business decisions and strategic objectives. The Board of Directors reviews monthly reports from the ESG committee and provides direction in climate-related priorities and action.

Strategy

The actual and potential impacts of climate-related risk and opportunities on the business, strategy and financial planning have been identified. Mitigation against potential risks has also been outlined.

Risk Management

Climate-related risks and opportunities that could impact GRAHAM under different climate scenarios are reviewed annually as part of our wider risk management processes. Climate change is considered a principal risk for GRAHAM Group, and this is reflected in our Group risk categories. Our Group evaluation of risks and opportunities covers all business streams and also includes that which occur in our own operations, or upstream or downstream of the Group.

Metrics And Targets

Our climate-related financial disclosures include details of the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

Using **Modern Methods of Construction**

We recognise the benefits associated with modern methods of construction and especially off-site manufacture incorporating Design for Manufacturing and Assembly (DfMA). We understand that utiltising MMC can bring efficiency to a project, eliminating waste and optimising the use of sustainable materials.

GRAHAM has amassed extensive experience in delivery of MMC and off-site manufacturing solutions within both our building and civil engineering divisions. This includes pre-cast solutions, modularised components and low carbon modern materials.

CASE STUDY 12

University of York Student Residences Project
We worked collaboratively with UOY and our design team to implement a DFMA approach from the very start of the project and off-site manufacturing was a major part of our approach to successfully complete the project.

In addition to the precast concrete wall panels, stairs, landing and modular bathroom pods, this included all service trays, racks, conduit, SVPs and rainwater, metal balustrades and aluminium ceiling cassettes. For this programme of work we used a full sandwich panel with the glazing fitted in the factory combining several packages.

Benefits of the MMC approach Included:

- Reduction in waste
- Reduction in embodied carbon associated with the building
- Reduction in water usage
- Reduction in delivery miles
- Consistency in quality of delivery
- Programme saving and greater programme certainty – the project completed 850 rooms to 2nd fix in just 38 weeks.
- Earlier weather tightness

Using **Resources Efficiently**

Our waste goal is to keep materials in their highest utilisation throughout their lifecycle, with a clear circular economy approach, decided at the earliest design stage opportunity to support the delivery of a lean and structurally efficient design. Engaging with pre-construction, design and client teams we work hard to primarily eliminate and alternatively, reduce waste at each stage of the project cycle. This is planned out within a bespoke Site Waste and Resource Management Plan.

We utilise BIM to enable the accurate measurement of materials, thereby minimising the risk of overordering and reducing the need to cut and resize on site.

We have set specific KPIs for each of our waste management contractors and we prioritise early engagement with selected waste contractors to discuss strategies to optimise circularity and recycling.

We also partner with the social enterprise, Community Wood Recycling to ensure that wood waste is reused in the most environmentally beneficial way and to help create local jobs. Last year we rescued 89.2 tonnes of timber from the waste stream, equating to a saving of 44 tonnes of CO_2e.

HIGHLIGHTS

- **38%** reduction in waste intensity (three year rolling average) from a 2014-2017 average baseline (currently 23T/£1M)
- **99%** diversion of construction waste from landfill
- Participation in the Supply Chain Sustainability School (SCSS) Waste and Resources Action Group to collaborate with industry and progress resource efficiency and circular economy initiatives
- **52%** reduction in water consumption (three year rolling average) from a 2014-2017 average baseline (currently 47m^3/£1M)

CASE STUDY 13

Sovereign House Leeds
– Commitment to the circular economy
At our Leeds Building Society project, involving the refurbishment of an 80,654 square foot office block, a circular approach and focus on using resources and materials efficiently was carefully planned during design stage. This included the removal of glazing on the building façade during the demolition stage, using a local sustainable work-surfaces company to crush the glass and then incorporate this back into the feedstock for the creation of sustainable work surfaces for the new office. Furthermore, the existing raised access flooring within the building was retained and reinstated to its original condition. Additionally, BREEAM A rated carpets were sourced locally and were manufactured using 100% renewable energy and over 60% recycled content.

Responsible Plastics Management

Whilst plastic plays a valuable role in business and society, the current plastics economy has many negative drawbacks - particularly on the environment. We are committed to playing our part in ensuring the responsible management of plastics within our business.

HOW WE'RE MANAGING PLASTICS RESPONSIBLY

- GRAHAM was the first contractor in the UK to sign up to the Responsible Plastics Management (RPM) programme
- We run a Responsible Plastics Management Working Group comprised of staff from a variety of roles. The aim of the group is to work together and find innovative ways for reducing unnecessary single use plastics within the business
- We have launched a Plastics Management Plan through which we have committed to specific actions to reduce reliance on unnecessary single use plastic items across our projects and offices
- We operate a waste segregation policy for dry recyclables to increase the recycling of plastics and we educate our workforce on preventing plastic leakage
- We work to ensure high levels of awareness of plastics issues within the business through training, awareness campaigns and participation in global initiatives such as #plasticfreejuly

CASE STUDY 14

One of the litter picks organised as part of our responsible plastics management actions

13 volunteers from our Hillsborough office taking part in the Northern Ireland Big Spring Clean. Over a 3km stretch alongside the River Lagan, numerous bags of litter and plastics were collected for recycling and removed from the environment whilst improving the natural beauty for local users.

Boosting Biodiversity

At GRAHAM we understand that construction can have a significant impact on biodiversity and we're working hard to play our part in halting biodiversity loss.

PROGRESS TO DATE HAS INCLUDED:

- Achievement of Platinum Status in the BITC NI Biodiversity Charter
- Collaboration with RSPB to publish a construction specific information booklet called "Building homes for nature"
- GRAHAM continue to adopt the swift as our priority species and has produced an internal video highlighting opportunities to create new habitat for the swift in urban settings
- Running several tree planting volunteering sessions across our regions in order to plant one tree for every one of our 2,200 employees
- Distributing wildflower seeds to each of our construction sites and running a wildflower "best blooms" competition amongst our sites
- Annual participation in the Big Biodiversity Initiative

CASE STUDY 15

Boosting Biodiversity at GRAHAM

Every year to mark International Day of Biodiversity, we issue our sites with a packet of wildflower seeds to sow and grow in order to support wildlife and engage our stakeholders. This year's winner was the team at Fife Elective Orthopaedic Care, who really embraced the spirit of the wildflower seeds and went above and beyond to rejuvenate a run-down area on the Victoria Hospital Estate. As a thank you to the NHS staff, they created a beautiful new garden area to benefit both workers and wildlife. Their prize was a bee post (pictured) designed to provide habitat for solitary bees.

Working with **our Suppliers**

Value chain emissions comprise more than 90% of GRAHAM's total emissions. We therefore recognise that to meet our net zero ambitions we need to work in partnership with our supply chain and support them in decarbonising their activities. Additionally, we believe that engaging and collaborating with our supply chain will help bring about positive outcomes for the environment, communities and people.

GRAHAM is working to support our supply chain and is actively assisting and encouraging our supply chain to embrace opportunities to reduce reliance on fossil fuels, eliminate waste and embrace natural solutions. Similarly we are listening to the ideas and proposals from our supply chain partners as we understand that they provide invaluable expertise, which will allow us to collectively achieve positive environmental impacts.

OUR PROGRESS TO DATE

- We are working to successfully embed the ISO 20400 Sustainable Procurement Principles into our way of working
- We have engaged with our key supply chain through the Supply Chain Sustainability School. Through the Supply Chain Sustainability School and in collaboration with other contractors, we have provided our key supply chain with a free carbon calculator and free training to help them to measure and report their carbon emissions
- We have been working to enhance the awareness and training of our supply chain and learn from their good practice in sustainability via scheduled supply chain sustainability events, visits and meetings
- We have been working with our supply chain to embed into our operations best practice in low carbon construction techniques and materials
- We are actively encouraging all of our suppliers to set their own science-based net zero targets
- Through the Supply Chain Sustainability School we are investing in the developmental training of our supply chain to attain the highest levels of low carbon and sustainability skills

CASE STUDY 16

Supply Chain Briefing Event at Anfield: November 2022
Over 60 attendees from a range of disciplines within our supply chain participated in an engaging hour-long session on "Environmental Sustainability and Net Zero".

Environmental Sustainability Training

We understand the need to provide our people with the skills, knowledge and awareness needed in order to identify key environmental sustainability issues and opportunities and make the right decisions. We utilise an in-house Environmental Sustainability Training Matrix, which details an Environmental Competency and Training Plan for staff across GRAHAM operations. The training matrix identifies training requirements across all key business roles and consists of both internal, external and e-learning training.

CASE STUDY 17

Carbon Literacy Training

Together with three other contractors and Keep Scotland Beautiful we helped to develop the UK's first accredited Carbon Literacy Training for the construction industry. We are now rolling the training out to our employees to provide them with the support and practical tools to help GRAHAM achieve our net zero ambitions and to help understand the significant changes needed as we move to a low carbon economy. To date, more than 150 staff have now attended accredited training in the climate emergency.

GRAHAM Guiding Principle and Core Pillars

Guiding Principle & Core Pillars	Integration into environmental values
Delivering lasting impact	We support our teams in order to facilitate positive environmental impacts. We nurture our emerging talent and instil a commitment to environmental sustainability to shape a better world.
Our people make us unique	Through provision of environmental training at all levels within GRAHAM we create the conditions for our people to excel. We have a strong moral code and we intuitively know what "doing the right thing" means in terms of environmental protection.
We have ambition built on deep expertise	We are pursuing our environmental sustainability ambitions with relentless enthusiasm and resourcefulness. There is a wealth of knowledge and talent within the GRAHAM team and we have a track record of delivering positive outcomes.
Relationships define our success	Having collaborative relationships with our clients, partners and supply chain allows us to deliver positive outcomes for the environment and efficiencies no matter how challenging or complex the project is.
We strive to make a difference	We measure our impact not only in the quality of the project delivered, but in the longer-term impact on the environment and communities. The implementation of our policy, strategy, technologies, and processes will ensure future generations are positively impacted by our operations.