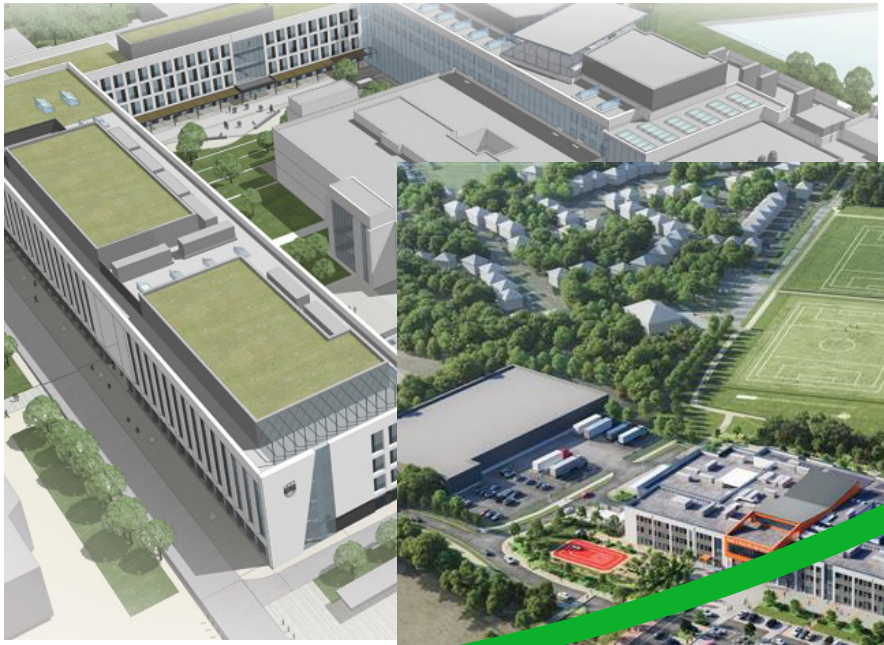
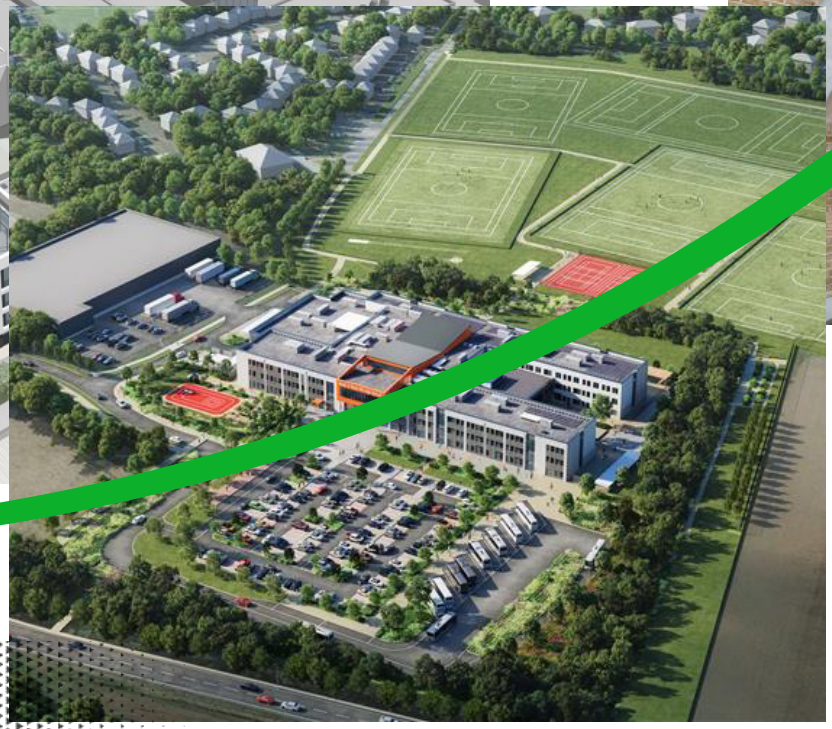
Integrated Carbon Reduction Plan 2025





Building a sustainable tomorrow

BAM UK and Ireland | September 2025

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Our organisation

BAM UK and Ireland (BAM UK&I) is an operating division of Royal BAM Group nv, a construction company operating in Europe.

In the UK & Ireland, BAM has established itself as a leading tier 1 contractor spanning the entire lifecycle of the built environment, comprising the design, delivery and operation of public and private infrastructure and construction projects. We deliver in excess of £2.5bn worth of work across 200+ projects each year. More about what we do can be found on our website.

BAM UK & Ireland operates through three business segments, aligned to the markets we serve.

BAM Construction delivers building projects across the commercial, education and healthcare sectors, providing end-to-end capabilities from early design through to construction and handover.

BAM Infrastructure delivers complex civil engineering and infrastructure projects, including transport, energy, water and environmental infrastructure, supporting national and regional investment programmes.

BAM Ireland operates across both building and civil engineering markets in Ireland, delivering a diverse portfolio of public and private sector projects alongside a range of complementary services.

Our decarbonisation strategy, commitment to delivering net zero by 2050 and associated carbon reduction projects apply to all entities within BAM UK & Ireland. Therefore, all commitments and targets (unless otherwise stated) apply equally to each legal entity in the division.

Purpose of our Carbon Reduction Plan

The Integrated Carbon Reduction Plan (ICRP) provides a structured framework for articulating our organisation's approach to decarbonisation. It outlines the principles, targets, and mechanisms through which we aim to reduce greenhouse gas emissions across our operations and value chain. The plan is designed to ensure alignment with regulatory expectations, client requirements, and broader sustainability commitments, including our trajectory toward net zero.

By consolidating key data and strategic actions, the ICRP supports informed decision-making and enhances transparency for internal and external stakeholders. It serves as a reference point for operational teams, enabling consistent application of carbon reduction practices across projects and business units. Furthermore, the plan facilitates engagement with supply chain partners and clients by clearly communicating our priorities and progress.

The ICRP is intended to be a dynamic document—updated periodically to reflect evolving standards, performance insights, and technological developments. In doing so, it reinforces our commitment to continuous improvement and positions us to respond proactively to emerging risks and opportunities in the low-carbon transition.

Our commitment to achieving net zero

Our commitment to achieving net zero reflects both a strategic imperative and a core organisational value. We recognise the urgency of climate change and the role our sector must play in accelerating the transition to a low-carbon economy. As such, we have set ambitious targets to reduce greenhouse gas emissions across our Scope 1, 2, and selected Scope 3 categories, with a clear trajectory toward net zero.

This commitment is underpinned by a structured decarbonisation pathway, informed by evolving science-based targets and aligned with industry benchmarks. We are actively investing in low-carbon technologies, refining our operational practices, and engaging our supply chain to drive emissions reductions at scale. Our approach balances ambition with realism—acknowledging the complexity of our operating environment while maintaining transparency about progress and challenges.

We continue to review and adapt our targets to reflect emerging data, regulatory developments, and stakeholder expectations. This includes the introduction of a Scope 1 & 2 Decarbonisation Task Force to oversee implementation and ensure accountability across the business. Through this plan, we aim not only to meet our obligations but to demonstrate leadership in sustainable construction and contribute meaningfully to the UK's net zero goals.

Targets - *all group targets and division targets…

Scope	Entity	Target	Base year	Progress to date
1&2	Royal BAM Group	80% reduction in emissions intensity by 2026	2015	-70%
1&2	UK&I Division	Net Zero by 2030	2015	-52%
3	Royal BAM Group	50% reduction by 2030	2019	-34%
1,2&3	Royal BAM Group	Net Zero by 2050	2019	-45%

Scope 1& 2 base year emissions 2015

	UK&I Division	BAM Nutall Ltd	BAM Construct & Ventures Ltd	BAM Contractors Ltd
Scope 1	47,826	35,456	5,563	7,007
Scope 2 market based	6,724	2,616	4,108	751
Scope 2 Location based	10,130	3,666	4,988	1,476

*Figures in this table may not sum exactly due to rounding.

Scope 3 base year emissions 2019

	UK&I Division	BAM Nutall Ltd	BAM Construct & Ventures Ltd	BAM Contractors Ltd
Purchased goods and services	550,647	122,376	246,812	181,460
Capital Goods	54,185	4,377	34,420	15,389
Fuel & energy related activities	13,814	7,394	2,843	3,578
Upstream transportation and distribution	22,806	9,063	9,386	6,872
Waste generated in operations	6,366	3,107	1,784	1,476
Business travel	6,116	3,140	2,800	177
Employee commuting	1,203	245	958	*
Use of sold products	507,086	0	342,674	164,412
End-of-life treatment of sold products	6	0	5	2
Scope 3 total	1,164,754	149,700	641,680	373,365

*Included in Fuel and energy-related activities

**Figures in this table may not sum exactly due to rounding.

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2024 emissions

	UK&I Division	BAM Nutall Ltd	BAM Construct & Ventures Ltd	BAM Contractors Ltd
Scope 1	23,437	19,196	1,228	2,978
Scope 2 market based	2,811	2,222	540	47
Scope 2 Location based	7,837	2,928	1,867	3,040
Scope 3 breakdown				
Purchased goods and services	439,107	144,130	226,756	68,221
Capital Goods	40,779	5,189	32,255	3,335
Fuel & energy related activities	9,734	5,666	3,241	827
Upstream transportation and distribution	28,284	17,301	7,362	3,620
Waste generated in operations	5,453	1,996	1,996	1,462
Business travel	3,572	2,186	1,228	158
Employee commuting	1,203	66	220	*
Use of sold products	49,189	0	42,822	6,367
End-of-life treatment of sold products	368	0	10	358
Scope 3 total	577,690	176,533	315,891	84,349
Scope 1,2 (market-based) & 3 total	603,938	197,951	317,659	87,374

*Included in Fuel and energy-related activities
**Figures in this table may not sum exactly due to rounding.

Governance

The governance structure for managing carbon-related risks at BAM UK&I operates at three levels: Group, Division, and Segment. You can find our wider Sustainability Governance structure as detailed in Chapter 6 of the Royal BAM Annual Report.

At the Group level, the Executive Committee (ExCo) oversees carbon-related risks, reports to the Supervisory Board, and defines strategies. Segments translate these strategies into plans, with a designated sustainability manager reporting quarterly on progress. The Risk and Control Committee advises the ExCo on key risks, informed by quarterly assessments involving Segments.

At the Division level, the UK & Ireland Division Leadership Team (DLT) addresses risk assessment and management. The Division Operations Committee, including Executive Directors from Segments, discusses carbon-related matters. They receive insights from the Environmental Sustainability Director and the Sustainability Controller, who ensures data accuracy.

The Operations Committee supports carbon initiatives within operations and has strategic responsibilities for managing risks in planning, enabling business change and alignment with decarbonisation efforts.

The Environmental Sustainability Director, part of the Operations Committee, updates on carbon-related issues and leads the UK&I ESG strategy. This role includes cross-functional alignment and leading the Environmental Sustainability Leadership (ESL) Team, which meets regularly.

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Case Study: Trialling Hybrid Generators for Carbon Reduction

The Brighouse Flood Alleviation Scheme (FAS) has implemented a trial of hybrid excavators as part of BAM's Element 1 project to reduce carbon emissions by integrating hydrogen as a low-carbon alternative to diesel

The £13 million Brighouse FAS aims to protect 359 properties from flooding along the River Calder in West Yorkshire. The project involves the excavation of swales and the construction of embankments. The trial of a hybrid excavator is part of BAM's commitment to reducing carbon emissions

A 20-tonne Kobelco SK210 excavator was converted to run on a dual-fuel system using both diesel and green hydrogen. The trial demonstrated a 30% reduction in diesel usage and a Scope 1 emissions saving of 600kg CO2

The hybrid excavator consumed 70kg of hydrogen, resulting in significant carbon savings. The dual-fuel technology worked successfully in real-world conditions, with no difference in performance compared to a standard excavator

The main challenge was downtime associated with refuelling hydrogen packs, which was addressed by developing a mobile refuelling bowser

The success of the trial has significant implications for the future of carbon reduction in the construction industry. The results will inform the potential of dual-fuel technology and contribute to the decarbonisation of construction plant

The trial of hybrid excavators at Brighouse FAS has demonstrated the feasibility and benefits of integrating hydrogen as a low-carbon alternative to diesel. The initiative achieved substantial carbon savings and provided valuable insights into the practical implementation of dual-fuel technology

- **£13m Brighouse FAS**
- **359 properties protected**
- **20-tonne hybrid excavator**
- **30% less diesel use**
- **600kg CO_2 saved**

"The excavator has been used for various tasks, including managing stockpiles and loading and offloading of materials. It has worked really well."

Ian Walker | Project Manager, Environment Agency

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Case Study: Sustainable Renewal of the Grand Surrey Canal Rail Bridge

The Grand Surrey Canal Bridge, a pivotal rail artery serving London Bridge Station, faced ageing infrastructure challenges which limited train speeds and risked service reliability. A conventional replacement was assessed but ultimately discounted due to the potential for prolonged network disruption, significant costs, and a high embodied carbon footprint.

BAM's remit was to enhance bridge performance, maintain continuous rail operations, and deliver tangible reductions in carbon emissions.

In partnership with key stakeholders, our team adopted a data-led and innovative approach. Rather than pursue demolition, they delivered a bespoke reinforced concrete arch that enveloped the original span, integrating the legacy structure into the new system. This strategy preserved valuable operational continuity, minimised construction waste, and avoided the use of carbon-intensive materials.

Material optimisation was at the core of the project. GGBS-admixed concrete was selected for its sustainability credentials—structural mixes contained up to 73% GGBS, while non-structural foam concrete contained 40%. This approach led to a reduction of up to 70% in embodied carbon versus traditional methods. Rigorous early-stage planning and comprehensive material testing underpinned every decision, ensuring both performance and compliance.

The Grand Surrey Canal Bridge Renewal, delivered by BAM, achieved over 1,100 tonnes in total carbon savings—including 832 tonnes attributed solely to material selection—all while maintaining rail service. The scheme also improved asset performance and reduced lifecycle emissions.

Recognised with Rail Bridge Project of the Year at the New Civil Engineer Bridges Awards 2025, this project sets a new industry benchmark for sustainable bridge renewal—demonstrating BAM's commitment to innovative, responsible infrastructure delivery.

- **1,100 tCO_2e saved**
- **70% carbon cut**
- **73% GGBS concrete**
- **Continuous rail service**
- **Award-winning renewal**

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Lyde Green Community School: A Model for Integrated Carbon Reduction

The Lyde Green Community School project in Bristol is a flagship initiative aimed at enhancing educational facilities while achieving significant carbon reduction goals. The project involves the construction of a new 420-place primary school and a 900-place secondary school, both designed to meet Passivhaus standards with an embodied carbon figure of 533 KGCO2e/m2.

The new school buildings are designed to be highly energy-efficient, featuring modern designs, improved navigation, and enhanced functionality. The primary school will be managed by the Castle School Education Trust (CSET), while the secondary school will be run by the Olympus Academy Trust. Both schools are set to welcome new students in September 2026.

The project is a collaborative effort involving South Gloucestershire Council, the Department for Education, BAM, and various supply chain partners. Despite challenges such as the pandemic and high inflation, the project has stayed on budget, thanks to close collaboration and innovative solutions.

Key Features and Lessons Learned

- Energy Efficiency: The buildings are designed to avoid thermal bridging and eliminate air leakage points through robust detailing and mock-up testing. The use of Cross Laminated Timber (CLT) wall panels and additional insulation ensures a highly insulated envelope.
- Air Tightness: Regular air tightness checks during construction help prevent energy loss through air leakage. The project targets a maximum of 0.2 m3 for air tightness.
- Heat Recovery: A hybrid natural/mechanical ventilation system is implemented to recover heat during winter 1.
- Supply Chain Maturity: Strategic supply chain partners like ISOQUICK® provide innovative thermal bridge-free foundation solutions, contributing to the project's success 1.

The Lyde Green Community School project exemplifies how integrated carbon reduction strategies can be successfully implemented in large-scale construction projects. By focusing on energy efficiency, air tightness, and innovative solutions, the project sets a benchmark for future sustainable school developments 1.

"BAM and Hydrock are successfully working together with the benefit of BAMs experience in delivery of high-quality low carbon projects to achieve these key project aims and aspirations"

Graeme Granger | Technical Director, Hydrock

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Case Study: Embodied Carbon Reduction at Caledonia High School

The new Caledonia High School in South West Fife, designed to replace Inverkeithing High School, will serve up to 1,800 pupils and offer community access during designated hours. The development includes extensive sports and transport infrastructure: three grass pitches, two 3G pitches, multiple-use games areas (MUGAs), car parking, and 20 bus laybys.

A key focus of the project was reducing embodied carbon in structural steel. Working closely with our supplier, we prioritised procurement from Electric Arc Furnace (EAF) mills, which offer significantly lower embodied carbon compared to traditional Basic Oxygen Steelmaking (BOS) methods. As a result, 91% of the rolled sections used were sourced from EAF mills, achieving an average embodied carbon intensity of 560 $kgCO_2e/t$ (A1-A3).

This strategic procurement approach resulted in a total embodied carbon figure of 784 tCO_2e (A1-A3) for the rolled sections. Had BOS-sourced steel been used, this figure would have risen to 1,980 tCO_2e—more than 2.5 times higher. The decision to use EAF steel therefore delivered a carbon saving of 1,196 tCO_2e.

To ensure accuracy and transparency, supplier- and product-specific Environmental Product Declarations (EPDs) were used wherever possible to estimate embodied carbon for structural steel, decking, reinforcement, and coatings. This data-driven approach enabled us to make informed decisions and maximise carbon savings.

This case study demonstrates how early engagement with suppliers and a focus on low-carbon materials can deliver substantial carbon reductions in large-scale educational infrastructure projects.

- **1,800 pupils served**
- **91% low-carbon steel**
- **560 $kgCO_2e/t$ intensity**
- **1,196 tCO_2e saved**
- **20 new bus laybys**

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Carbon Case Study:
Victoria Passenger Improvement

The Victoria Passenger Improvement project, led by BAM Nuttall on behalf of Network Rail, is a significant initiative aimed at enhancing passenger experience at London Victoria Station. The project focuses on reducing congestion, improving safety, and expanding the station's infrastructure. Key improvements include the expansion of the station concourse, construction of an access route linking platform 14 with nearby escalators, and the installation of 35 new ticket gates.

A central aspect of the project is its commitment to environmental sustainability. The project team, in collaboration with Tony Gee & Partners, implemented a Resource Efficiency Assessment to identify opportunities for resource efficiency at an early design stage. This assessment aimed to optimise material use, reuse materials, and specify reused, recycled, and recyclable materials.

One of the standout achievements of the project was the retrofitting of five existing steel gantries, which significantly reduced the need for new installations. Originally, the carbon footprint for new steel gantries was estimated at 2.796 kgCO2e per kg of steel. By retrofitting the existing gantries, the project achieved a carbon saving of 9,948.96 kgCO2e, translating to a 58.28% reduction in carbon emissions associated with the steel gantries.

Additionally, the project addressed the need for a new CER/ESR building for the Sussex Route at Victoria Station. Instead of constructing a new facility, the existing Kent CER was adapted to accommodate the required equipment for Sussex, further contributing to carbon savings.

This strategic reuse of materials and facilities not only saved resources but also demonstrated BAM's commitment to a circular economy. The successful outcomes of these initiatives provide a valuable blueprint for future projects, illustrating the potential for significant environmental benefits through strategic material reuse and efficient design.

- **35 new ticket gates**
- **5 steel gantries reused**
- **9,949 kgCO_2e saved**
- **58% carbon cut**
- **Expanded concourse**

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Carbon Case Study: University College Dublin (UCD) Science Centre Phase III

The University College Dublin (UCD) Science Centre Phase III project is a pioneering initiative aimed at enhancing sustainability and reducing carbon emissions. This project, managed by BAM Contractors (Ireland) in collaboration with RKD Architects, Arup, Mitchell Associates Landscape Architects, GSP Fire Ltd., and AWN Consulting, involves the development of two buildings, West and North, linked by the Northwest Link, totalling approximately 23,000 sqm of new and refurbished science facilities.

A key aspect of this project is the comprehensive Whole Life Cycle (WLC) Assessment at Stage 6, which is the first of its kind for both BAM Ireland and UCD. This assessment, reviewed by a third-party consultant, focuses on the embodied carbon of the development, providing crucial data to benchmark against other projects and inform future sustainability efforts.

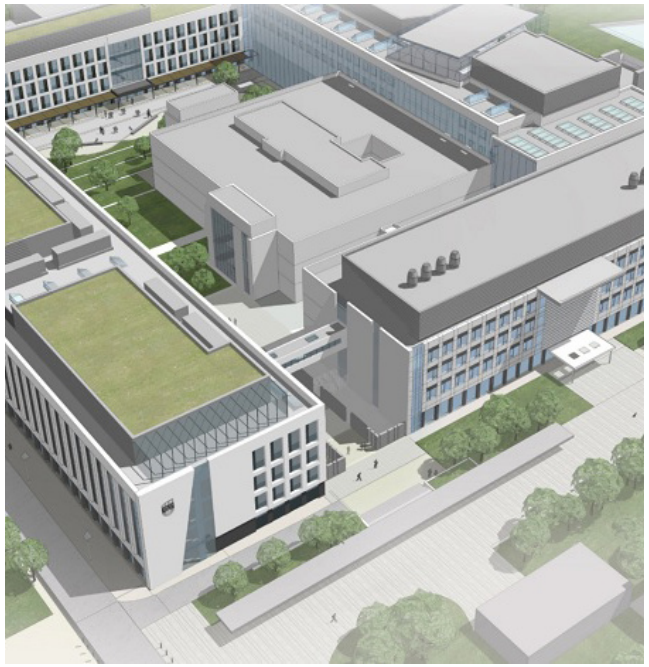
The project aligns with BAM's broader commitment to achieving net zero emissions by 2026, particularly in the areas of decarbonisation and climate adaptation. The embodied carbon assessment, although conducted post-design, is instrumental in understanding the carbon intensity of the development and driving sustainability culture among stakeholders.

Preliminary outcomes indicate significant carbon savings, with approximately 2,800 tCO2e saved by refurbishing existing buildings rather than constructing new ones. The data collection process has also increased stakeholder engagement and collaboration, fostering a proactive approach to achieving sustainability targets.

The UCD Science Centre project is being delivered in two phases, with the North Block assessment scheduled for completion by September 2025 and the West Block by February 2026. The findings will be presented to the client, design team, and site team, further enhancing awareness and collaboration around sustainability goals.

This case study exemplifies BAM's commitment to sustainability and its strategic approach to integrated carbon management, setting a benchmark for future projects.

- **23,000 sqm facilities**
- **2 buildings + link**
- **2,800 tCO_2e saved**
- **Whole Life Carbon first**
- **Net zero by 2026**



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Future Carbon Reduction Initiatives

To support continued progress against our carbon reduction commitments, we have identified a programme of future initiatives focused on reducing emissions across our most material sources.

These initiatives build on existing activity and are designed to strengthen supply chain engagement, embed low-carbon decision making, and improve operational performance across projects, plant and facilities.

Objective	Key initiatives
Measure and reduce Scope 3 emissions relating to material use	• Engage with our supply chain to secure consistent reporting of actual material quantities • Upskill design and engineering teams on low-carbon material options and design approaches • Develop sustainability decision matrices for key materials (e.g. concrete and steel) to prioritise lower-carbon alternatives • Establish a Whole Life Carbon expert panel to share best practice and support continuous improvement
Remove emissions from our fleet	• Establish HVO refuelling capability at key depots across the UK and Ireland • Review the UK & Ireland commercial fleet to identify vehicles suitable for lower-emissions alternatives • Transition small panel vans to electric vehicle alternatives where operationally viable • Promote alternatives to car and air travel, including cycle-to-work schemes and increased remote and hybrid working • Promote the use of forecourt HVO refuelling for company cars in Ireland
Reduce emissions from our construction projects	• Require all new projects to comply with a minimum EPC B standard for site accommodation • Deliver posters and toolbox talks on efficient use of plant and equipment, including reducing idling time, appropriate equipment sizing and improved logistics planning • Scale alternatives to diesel generators for off-grid power generation, including hydrogen, biofuels, and solar and battery combinations
Enable and govern carbon reduction across the business	• Develop and implement a UK and Ireland-wide carbon management system covering the full project lifecycle • Maintain a carbon reduction initiatives tracker to monitor actions implemented across the business • Deliver comprehensive reporting and communication on carbon emissions internally and externally • Embed carbon reduction within sustainability awareness training to build capability and consistency across roles

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Declaration & Sign Off

This Carbon Reduction Plan has been completed in accordance with PPN 006 and associated guidance. Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol Corporate Standard and uses appropriate emission conversion factors for greenhouse gas company reporting.

Scope1 and Scope 2 emissions have been reported in accordance with SECR requirements, and Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body).
Signed on behalf of the supplier:

John Wilkinson
Chief Operating Officer
BAM UK & Ireland

September 2025

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For more information on our waste reduction approach, contact:

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