

Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Royal BAM Group nv is a construction firm with ten operating companies in five European home markets and in niche markets worldwide. BAM's operating companies are active in the business lines Construction and Property, Civil engineering, as well as in Public-private partnerships. The Group has a widespread network of offices, close to its clients. BAM has approximately 18,000 employees and is a listed company at Euronext Amsterdam. It is BAM's mission to build sustainable environments that enhance people's lives by enabling the right people to capitalise on state-of-the-art knowledge, resources and digital technologies, providing solutions across the total construction life cycle for the Group's clients and clients and generating maximum value for its stakeholders. When launching its 2016-2020 strategic programme 'Building the present, creating the future', the Group defined its vision for 2020: By 2020 BAM will be recognised as one of Europe's leading sustainable and innovative construction businesses, with healthy profits and a strong balance sheet, active across the total construction life cycle in European home markets and in selected growing economies worldwide. BAM's vision and unique culture are underpinned by four values which are guiding for the people of BAM. These values are predictable performance, scalable learning, proactive ownership and open collaboration.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting year	January 1, 2020	December 31, 2020	No

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Antarctica
Australia

Belgium
Canada
Germany
Indonesia
Ireland
Netherlands
Sierra Leone
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United Republic of Tanzania

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Financial control

C-CN0.7/C-RE0.7

(C-CN0.7/C-RE0.7) Which real estate and/or construction activities does your organization engage in?

New construction or major renovation of buildings
Buildings management
Other real estate or construction activities, please specify
Civil engineering

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	<p>The CEO (Chairman of the Executive Committee) oversaw the board and the sustainability strategy and performance in 2020. Sustainability (or Corporate Social Responsibility) is part of the Dutch Corporate Governance Code. The Executive Committee is responsible for reporting material sustainability aspects, including climate related issues and for the performance on sustainability.</p> <p>The Executive Committee, which consists of the CEO, CFO, Chief Operating Officer (COO) Civil engineering, COO Construction and Property, Chief Business Excellence Officer, and Chief HR Officer), defines the sustainability policy including climate issues in consultation with the Director Strategy and the management teams of the operating companies. Meetings with senior management are used to define sustainability and climate issues, and reach agreement on prioritizing objectives, monitoring activities, and reporting results.</p> <p>The Executive Committee, led by the CEO, has the final say in climate-related issues and has the mandate to make key climate-related decisions. An example of a key decision in 2020 was the Executive Committee’s decision to make it mandatory for all employees to book flights and hotels via the new travel agent Egencia. This enabled to improve the data quality of CO2 emissions from employee travel (mainly flights) as Egencia provides a live dashboard with key insights in the CO2 footprint , making it easier for BAM Group and the Operating Companies to monitor employee travel trends and steer on CO2 reduction.</p>

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	<ul style="list-style-type: none"> Reviewing and guiding strategy Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives 	<p>The Executive Committee defines BAM’s sustainability strategy, which is part of BAM’s company wide strategy, in consultation with the Group Director Strategy and the management teams of the operating companies. The sustainability strategy includes key strategic objectives, goals and targets related to climate related issues (reduction of CO2 emissions and carbon intensive resources as well as other climate related risks and opportunities). All these key strategic objectives, goals and targets are translated into Strategic and Operational plans of BAM’s operating companies. The Operational plans include annual budgets attached to the actions to</p>

	<p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>achieve these climate related objectives. Meetings between the Executive Committee and senior management of the Operating companies are used to review and guide these Strategic and Operational plans as well as monitor implementation and performance of the objectives, goals and targets that are included in them. This includes quarterly meetings where the operating companies report progress to the Executive Committee and the Group Director Strategy. Critical concerns are reported to the Executive Committee at least in quarterly reports, or whenever more urgency is required. The Executive Committee communicates to the Supervisory Board according planned reporting cycles, or whenever more urgency is required. Sustainability is part of how managers and employees do their day-to-day jobs. It is addressed, for example, at regular work discussions and performance reviews. In this way, climate related issues are assessed across all levels of the Group, from BAM's Executive Committee to its local activities.</p>
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C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Financial Officer (CFO)	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Sustainability is part of BAM's mission and vision and impact on climate change has explicitly been made part of BAM's key strategic objectives. Responsibility for these strategic objectives lies with BAM's Executive Committee, which consists of the CEO, CFO, Chief Operating Officer (COO) Civil engineering, COO Construction and Property, Chief Business Excellence Officer,

and Chief HR Officer). The Executive Committee defines the Sustainability Policy in consultation with the Group Director Strategy and the management teams of the operating companies. The Strategic Plan for climate related issues are an integral part of the 2016-2020 Strategic Agenda. Each year the priorities for the next year are discussed, agreed and monitored as part of the yearly Operating Plans. Action plans and targets are included in a separate Sustainability Operating Plan and in Operating Plans of Operating companies. The Sustainability Operating Plan is prepared and agreed between the Group Director Strategy and senior representatives of each operating company involved in climate-related issues. This is called the Sustainability Community Table within BAM's governance.

Meetings with senior management are used to define sustainability issues and reach agreement on prioritising objectives, monitoring activities, and reporting results. Critical concerns are reported to the Executive Committee at least in quarterly reports, or sooner whenever more urgency is required. The Executive Committee communicates to the Supervisory Board according to planned reporting cycles, or whenever more urgency is required. Safety ambitions, the reduction of CO2 emissions and other climate related issues, waste management and business integrity, apply to all BAM operating companies. In addition, each operating company measures KPIs addressing issues of relevance to its own business. Each operating company has a management team member who has the responsibility for sustainability. The operating companies report progress quarterly to the Executive Committee and the Group Director Strategy together with details of actions taken to support the Group's business objectives. They interpret BAM's objectives based on their unique operating conditions. Sustainability is part of how managers and employees do their day-to-day jobs. It is addressed, for example, at regular work discussions and performance reviews. In this way, climate related issues are assessed across all levels of the Group, from BAM's Executive Committee to its local activities.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	BAM believes providing incentives for the management to reach climate-related targets is key to ensure climate-related issues maintain an important part of BAM's strategy and management.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
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Board/Executive board	Monetary reward	Emissions reduction project Emissions reduction target	<p>BAM's remuneration policy for the Executive Committee/Board supports both short and long-term objectives, whereas the emphasis is on long-term value creation for Royal BAM Group and its stakeholders. It contributes to this long-term value creation by not only focussing on financial targets but also on non-financial targets such as sustainability. 33 per cent of the long term incentive is linked to sustainability objectives which are relevant for the Group's long term success, these include CO2 emission reduction objectives. Long term incentive is based on two financial objectives and one non-financial objective, being sustainability. The sustainability objective determines one third of the vesting of the conditionally awarded performance shares. From the 2018-2020 Long Term Incentive plan onwards the sustainability objective comprises of three criteria of equal weight, being: BAM's ranking on CDP's climate change A list, carbon intensity reduction and construction and office waste intensity reduction.</p> <p>These objectives and accompanying remuneration are cascaded down through the business to (operating company) senior management teams. The Group Director Strategy is also appraised in a yearly Performance Development Review on key performance indicators including CO2 emission reductions, waste reduction and CDP ranking. The yearly Sustainability Operating Plan which is prepared in consultation with the Sustainability Community and agreed by the Executive Committee/Board reflects the yearly implementation plan in order to achieve this desired outcome.</p>
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction project Emissions reduction target	<p>BAM's remuneration policy for the Executive Committee/Board supports both short and long-term objectives, whereas the emphasis is on long-term value creation for Royal BAM Group and its stakeholders. It contributes to this long-term value creation by not only focussing on financial targets but also on non-financial targets such as sustainability. 33 per cent of the long term incentive is linked to sustainability objectives which are relevant for the Group's long term success, these include CO2 emission reduction objectives. Long term incentive is</p>

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Chief Financial Officer (CFO)	Monetary reward	Emissions reduction project Emissions reduction target	<p>BAM's remuneration policy for the Executive Committee/Board supports both short and long-term objectives, whereas the emphasis is on long-term value creation for Royal BAM Group and its stakeholders. It contributes to this long-term value creation by not only focussing on financial targets but also on non-financial targets such as sustainability. 33 per cent of the long term incentive is linked to sustainability objectives which are relevant for the Group's long term success, these include CO2 emission reduction objectives. Long term incentive is based on two financial objectives and one non-financial objective, being sustainability. The sustainability objective determines one third of the vesting of the conditionally awarded performance shares. From the 2018-2020 Long Term Incentive plan onwards the sustainability objective comprises of three criteria of equal weight, being: BAM's ranking on CDP's climate change A list, carbon intensity reduction and construction and office waste intensity reduction.</p> <p>These objectives and accompanying remuneration are cascaded down through the business to</p>

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Chief Operating Officer (COO)	Monetary reward	<p>Emissions reduction project</p> <p>Emissions reduction target</p>	<p>BAM's remuneration policy for the Executive Committee/Board supports both short and long-term objectives, whereas the emphasis is on long-term value creation for Royal BAM Group and its stakeholders. It contributes to this long-term value creation by not only focussing on financial targets but also on non-financial targets such as sustainability. 33 per cent of the long term incentive is linked to sustainability objectives which are relevant for the Group's long term success, these include CO2 emission reduction objectives. Long term incentive is based on two financial objectives and one non-financial objective, being sustainability. The sustainability objective determines one third of the vesting of the conditionally awarded performance shares. From the 2018-2020 Long Term Incentive plan onwards the sustainability objective comprises of three criteria of equal weight, being: BAM's ranking on CDP's climate change A list, carbon intensity reduction and construction and office waste intensity reduction.</p> <p>These objectives and accompanying remuneration are cascaded down through the business to (operating company) senior management teams. The Group Director Strategy is also appraised in a yearly Performance Development Review on key performance indicators including CO2 emission reductions, waste reduction and CDP ranking. The yearly Sustainability Operating Plan which is prepared in consultation with the Sustainability Community and agreed by the Executive Committee/Board reflects the yearly implementation plan in order to achieve this desired outcome.</p>

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	1	BAM sets a short-term (yearly) strategy and target every year. Besides, strategic targets are set for 2020, which are also considered short term.
Medium-term	1	10	In developing and verifying our science based targets, results of climate change models have been taken into account to set a target for the year 2030, which is considered medium term by BAM.
Long-term	10	30	BAM has a long-term ambition to have a net positive impact on climate change, resources and people by 2050. The long-term horizon is therefore 2030 to 2050.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Definition of substantive financial impact at Corporate level:

BAMs vision is translated into specific targets for profit, planet and people. Through all the projects BAM undertakes, one of the most important financial and strategic targets for BAM is an adjusted margin before taxes (PBT) between 2 and 4 per cent. With a yearly revenue of roughly €6.8 billion (2020), BAMs total adjusted result before tax was €34.3 million (2020). In general, BAM defined the financial or strategic impact as substantive when the effect of an identified risk and/or opportunity is large enough to affect BAMs revenue and/or PBT to a noticeable degree on the short-, medium- and long-term. The quantifiable indicator used to define the impact is defined as the effect on revenue and/or PBT in euros. Climate-related risks and or opportunities are defined as substantive when impact on revenue is larger than €50 million and/or the effect on PBT is larger than 1% of the expected figure.

Definition of substantive financial impact at project level:

BAM has adopted an Enterprise Risk Management approach driven by management to identify and understand group wide risks, prioritise these risks and define an effective response to the key risk and their vulnerabilities. The purpose of adopting the Enterprise Risk Management

framework is to operate within a sound risk profile and to: a) increase board and stakeholder confidence in the management of risks, b) reduce the potential for unanticipated impacts in relation to BAM's strategy and targets, c) manage expected risk exposure towards defined risk appetite and d) improve competitive position and responsiveness.

At project level, the definition of substantive financial impact depends on the specific risk, contract and technical scope of the specific project. Within BAM Group, climate change risk is part of general risk. This is taken into account at individual project level in an early development phase (tender phase). For example, the majority of works BAM realizes are design and construct contracts (2-stage tenders). Within these projects, a substantive financial impact of a general risk is defined as 1% of the expected revenue. The quantifiable indicator used to define substantive financial impact is euros. For projects with complex (contract) conditions and extended liability, a substantive financial impact of a general risk / management reserve is defined as 2% of the expected revenue in euros. If the risk-exposure is expected to exceed these percentages, BAM withdraws from the tender.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

Description of process:

BAM has two key-processes in place for identifying, assessing and responding to climate-related risks and opportunities: 1) Operating plan process cycle at Group level focussing on a medium-term time horizon. The outcome of the assessments are drivers for defining and planning the Group strategy focussing on a long-term time horizon. 2) Tender Stage Gate procedure focussing on risks and opportunities at project level on a short-term time horizon. Both individual processes are described below:

1) BAM has a regular management operating plan cycle (OP process) in place. Within this process, risk assessments are done on a quarterly basis, continuously identifying and assessing risks, responding to risks, monitoring risks and improving BAM's risk

assessment, strategy and targets. Climate-related risks are included in this cycle, which has already led to the setting and sharpening of climate-related targets throughout various cycles of risk assessment. that includes feedback and follow-up (direct operations). At Group level, strategic targets are set. BAMs Operating Companies (OpCo's) operate in specific industries and geographic areas (BAMs home countries and BAM International as a whole). Each OpCo creates a yearly operating plan (OP) and ensure alignment with the Group targets. The OpCo operating plans are being reviewed on a quarterly base by Group Strategy. The outcome of the risk assessment is used as important input for defining and planning the Group strategy.

2) Fundamental behind managing a healthy order intake is BAM's Tender Stage Gate procedure - set up in 2016. This is a key process for identifying and assessing risks in projects during the tender phase. Before the engineering and construction phase, tendering is a key- process in BAMs direct operations. All material tenders are guided through various stage gates based on the complexity and size of the tender (tender category). Through the process qualitative and quantitative risks and opportunities, including climate related, that may impact the success of the tender are considered. The time horizon(s) covered during this process are short-, medium- and long-term, depending on the specific project scope and contract. This allows us to focus on projects where we can add value through our climate adaptations and have a higher chance of acquiring projects. Our corporate Tenderdesk team (11 FTE) is responsible for this process. Tenderdesk assesses all BAM's significant tenders. We analyse already in the tender phase of significant projects whether a project offers an opportunity for us to be distinctive and to ensure that we include our climate adaptation experience in a timely setting. Medium- and long-term risks are also considered at a project level, mainly as part of designing and delivering resilient built assets (e.g. potential changes in climate and weather conditions are taken into account through design specifications).

Case study examples of how the described process is applied:

The Tender Stage Gate process is now being used to assess all major tenders at BAM. In 2020 BAM pulled out of 42 per cent of large tenders (projects regarded as highly complex and/or with a contract value > €45 million) because the risk/reward balance was considered not right. Of the tenders BAM pulled out of, 52 per cent was stopped at the early stages of the tender to prevent tender costs. Two thirds of this 52 per cent was stopped directly after assessing the client's tender documents.

A 2020 case study example where acute physical flooding risks were identified is the €31 million FM/Maintenance contract 'Zee & Delta district Zuid' for the Department of Waterways and Public Works (Rijkswaterstaat) in the Netherlands. In this contract BAM would be responsible for the availability and performance of different sluice locks. Flooding risk clauses and obligations during the operation phase were part of the client's contract. During the Stage Gate process, the project team assessed if unavailability of assets caused by flooding would be allocated to BAM. BAM decided to consult with the client since this would potentially lead to a significant risk-exposure and potentially increased costs. In consultation with the client, the flooding risk for BAM was mitigated with a contractual solution and change of liability. Therefore, BAM could meet the requirements specified in the contract and decided to continue tendering for this project.

Another case study example of how BAM applied this process is at the transitional opportunity identified for offering our climate adaptation solutions in the €550 million BAM PPP project Afsluitdijk (public infrastructure project). During the tender phase of this project, different scenarios were taken into account. As a result, BAM changed and optimized the client's (Dutch Government) initial design with an innovative and sustainable climate-adaptation solution. In this way, in the future, enough water can be drained in all weather conditions and with all water levels while the project significantly reduces energy consumption by 90%.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Current regulation is always included in climate-related risk assessments. Regulations, for example the Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES) UK and the energy label requirements for homes (in all home markets), have a direct influence on BAM's products, operations and financial performance. Risk type example: in the Netherlands BAM sees a significant shift away from natural gas connections for built assets. For new buildings and dwellings, a natural gas connection is already forbidden by Dutch law since June 2018 and in 2050 all new and existing dwellings in the Netherlands must be low-energy assets. With up to 200.000 transformations per year towards 2050, this is impacting a significant portion of BAMs business. During climate risk assessments, the impact of current regulation on BAMs business is assessed by (re)evaluating what projects fall under the regulation and what steps need to be made in order to ensure regulation is met. In the UK, 100% of projects for instance are impacted by the Carbon Reduction Commitment Energy Efficiency Scheme (with an approx. 0.5% increase to any energy costs) as well as the Energy Savings Opportunity Scheme (ESOS), which requires regular energy auditing to take place.
Emerging regulation	Relevant, always included	Emerging regulation is always included in climate-related risk assessments. Emerging regulations, such as a carbon tax and increased energy label requirements for homes (in the Netherlands) and existing buildings (in the UK), will have direct influence on BAM's products, operations and financial performance. During climate risk assessments, the impact of emerging regulation on BAM's business is assessed by (re)evaluating what (future) products and projects might fall under the regulation, what steps need to be made in order to ensure emerging regulation is met and what the consequences are for

		<p>the financial performance of these projects. Risk type example: in June 2018 the Dutch government agreed on a new National Climate Agreement to reduce CO2 emissions in the Netherlands by 49% in 2030 with specific focus on low-carbon vehicles. For BAM 30% of BAM Group's emissions are related to our vehicle fleet. Sustainable procurement and value-chain engagement with our preferred supplier for lease-vehicles is therefore an integrated part of our risk assessment.</p>
Technology	Relevant, always included	<p>Technologically driven risks are always included in climate-related risk assessments. New technologies that allow for more sustainable solutions in the built environment arise and customer demands with regards to these new technologies change. Risk type example: Not adopting such technologies in operations and products poses the risk of losing customers and market share and even full disruption. BAM identifies these risks by analyzing changing customer demands and by doing market assessments, which are part of BAM's strategy definition process and in more detail through validations with customers, which are part of BAM's innovation process. Examples of such climate-related new technologies that - in order to not lose market share - BAM believes needs to integrate into its offerings are: new sustainable energy solutions, new sustainable modular building solutions, or 3D printing (to save carbon-intensive materials in built structures).</p>
Legal	Relevant, always included	<p>Legal risks are always included. These assessments are primarily executed during BAM's Stage Gate process - a key process for identifying and assessing legal, contractual, financial and technical risks in projects. During the Stage Gate process, the contract is reviewed and the risk of potential (climate-related) litigation claims is taken into account. An example of this risk type is the risk of potential climate change (extreme weather) related litigation claims, which is covered in this process, for projects where climate change might play a role. A 2020 case study example of such a project is a framework performance contract ('Gebiedscontract Nat') for the Department of Waterways and Public Works (Rijkswaterstaat) in the Netherlands where flooding risks specifications were part of the contract. During the Stage Gate process, the project team assessed if future damage caused by flooding would be allocated to BAM. In consultation with the client, the flooding risk for BAM was mitigated with a contractual solution and change of liability. Therefore, BAM could meet the requirements specified in the contract and continued tendering for this project. The same Stage Gate process was followed for the extension of a highway (the A15 in the Netherlands). In this case, it turned out that flooding risks would be allocated to BAM, both during construction phase as during operation of the highway. This risk of potential litigation was deemed too high, and consequently the project was cancelled.</p>

Market	Relevant, always included	<p>Market risks are always included in climate-related risks assessment. For BAM, the risk of changing consumer behaviour is a key risk that needs to be continuously assessed to secure BAMs (future) business. A risk type example of a relevant market risk is the increased demand for low carbon products (e.g. zero energy homes) or solutions. This risk and BAMs management approach is being monitored during climate-related risk assessments and taken into account during the prequalification and tender phase of projects. There is an increasing demand for lower-carbon construction materials in construction - we see this for example specifically with asphalt. This pushes the market to innovate and develop asphalt mixtures with a lower carbon footprint. The risk to BAM is that if we do not innovate, we will lose our frontrunner position in asphalt innovation (in the Netherlands) and lose contracts as a result and therefore have a reduction in revenue from road construction. By developing new products and services (such as our LEAB asphalt mixture) through innovation BAM increases revenue through demand for lower emissions products and services.</p>
Reputation	Relevant, always included	<p>Reputational risks are considered very important to BAM and are always included in climate-related risks assessments. Climate change has been identified as one of BAM's material themes by its key stakeholders and therefore been made explicit in BAM's strategy, objectives, targets and code of conduct. If BAM's actions are visibly not in line with these commitments, it could cause reputational damage. An example of such risk is not meeting BAM's CO2 emissions reductions targets by not taking certain emissions reductions measures that are perceived as obvious and necessary.</p> <p>A risk type example is the potential reputational risk identified related to one of BAMs oldest asphalt plants located in Limburg, the Netherlands. Up to 2019, this plant was still operated with brown-coal. The use of brown coal is not in line with BAMs vision and sustainability strategy and could also reflect on BAMs reputation. In 2019, BAM decided to completely replace the brown-coal with climate friendlier alternative natural gas. This has saved 982 tons of CO2 in 2020. This also has a direct impact on BAMs operation costs up to €100.000 annually (based on a yearly production of 200.000 tonnes of asphalt and depending on fossil fuel market prices).</p>
Acute physical	Relevant, sometimes included	<p>Acute physical climate risks are taken into account in climate-related risk assessment for projects or operations that can be subject to these risks, such as marine operations in tropical areas (cyclones/storms) and projects in areas with high flooding risks. When not managed properly, acute physical risk types, such as severe weather conditions and/or flooding, can lead to more difficult operating conditions in certain areas of the world (and higher project costs for BAM). For such projects, specific risk and opportunity registers are made and</p>

		<p>additional design specification reviews are executed to determine the impact of these risks.</p> <p>A case study example of such a risk is the renovation of the Afsluitdijk, a key flood defence system in the Netherlands - a €550 million contract BAM PPP won in 2018.</p> <p>A 2020 case study example of such a project is the €31 million FM/Maintenance contract 'Zee & Delta, district Zuid' for the Department of Waterways and Public Works (Rijkswaterstaat) in the Netherlands where flooding risks specifications were part of the contract. During the Stage Gate process, the project team assessed if future damage caused by flooding would be allocated to BAM. BAM decided to consult with the client since this would potentially lead to a significant risk-exposure. In consultation with the client, the flooding risk for BAM was mitigated with a contractual solution and change of liability. Therefore, BAM could meet the requirements specified in the contract and continued tendering for this project.</p>
Chronic physical	Relevant, sometimes included	<p>Sea level rise is a key risk type example of a chronic physical climate risk that is relevant to BAM. It is included in climate-related risk assessment to explore potential future additional demands on water-land infrastructure, which is a core element of BAMs products and operations. In these risk assessments, different sea level rise scenarios are used to assess whether (future) projects/products of BAM can cope with various sea level increases. A case study example of this physical climate risk identified is the renovation of the Afsluitdijk, a key flood defence system in the Netherlands - a €550 million contract BAM PPP won in 2018 where during the tender phase different scenarios were taken into account. As a result, BAM changed and optimized the client's initial design with an innovative and sustainable climate-adaptation solution. This way, in the future, enough water can be drained in all weather conditions and with all water levels while the project significantly reduces energy consumption by 90%. Currently the Afsluitdijk is in construction phase. In this phase, the proposed design-solutions were finalized and executed in close collaboration with the client to ensure a realistic risk-appetite for BAM. When not managed properly, chronic physical risks can lead to more difficult operating conditions in certain areas of the world (and higher project costs for BAM). These aspects are therefore taken into account during a risk assessment of new projects in remote areas.</p>

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Climate change can affect weather patterns and increase the severity and number of storms and floods (IPCC). In BAMs home countries in North-West Europe, we see projects where extreme weather events such as storms and floods play a significant role. In total, 10% of BAMs operations in the Netherlands and the UK are marine related or on land around sea level in delta areas – representing a total revenue of €2,299 million in 2020 which accounts for almost 34% of the Groups total revenue. Our business units BAM Infra NL and BAM Nuttall have a significant market share in civil engineering marine-works. For example, BAM is delivering solutions to maintain the resilience of infrastructure systems such as levies and other sea protection structures. The risk to BAM is that part of BAMs operations in these delta areas can be affected significantly by extreme weather events, as storm and floods will lead to a (temporal) stop of construction activities and/or require additional precautions to enable the continuation of the work. Ultimately, this will lead to decreased production capacity, reduced revenues and significant risk-exposure.

In 2020, BAM decided to dismantle BAM International, our Operating Company dealing with operations in tropical areas outside Europe, such as Indonesia, Tanzania and Antarctica. Some of these countries are subject to extreme weather events like cyclones and irregularities in monsoon seasons, causing disruptions in planning and anticipated cost. BAM International – which accounts for almost 4% of the Groups total revenue will be finishing its current project portfolio towards 2021. The Operating Company won't be pursuing new projects - resulting in a significantly reduced risk of extreme weather events impacting BAMs business.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

520,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Explanation of financial impact figure:

If risks are considered to be too high, BAM needs to withdraw from tenders which leads to missed revenue for BAM. In 2020. On average, BAM Group submitted bids for 52 significant A tenders (regarded as highly complex and/or with a contract value > €100 million per year). Of these tenders, 10% includes potential climate-related risks (total €520 million). If BAM Group decides to withdraw from 100% of these tenders due to risk of increased severity and frequency of extreme weather events, the potential impact and decrease in revenue will be €520 million.

Cost of response to risk

1,900,000

Description of response and explanation of cost calculation

The risk of extreme weather events is taken into consideration during tendering stage to minimize the financial impact of physical risks. At project level, BAM currently takes storm (hurricane/ typhoon/ cyclone) and flood seasons into serious consideration when planning our work. A 2020 case study example where an acute physical flooding risk was identified is the 'Zee & Delta, district Zuid' tender for the Department of Waterways and Public Works (Rijkswaterstaat) in the Netherlands – a €33 million FM/maintenance contract BAM Infra NL was involved in. In this project, flooding risk clauses and obligations during the construction phase were part of the clients contract.

During the Stage Gate process, the project team assessed if future damage caused by flooding would be allocated to BAM. BAM decided to consult with the client since this would potentially lead to a decreased production capacity, reduced revenue and significant risk-exposure. In consultation with the client, the flooding risk for BAM was mitigated with a contractual solution and change of liability. Therefore, BAM could meet the requirements specified in the contract and continued tendering for this project. Alternatively, if the risk/reward balance in projects like this is considered not right, BAM eventually withdraws as the climate-related risks of flooding would potentially lead to

decreased production capacity, reduced revenue and significant risk-exposure for BAM.

Explanation of cost calculation: For the Zee & Delta district Zuid tender we applied the Stage Gate process in the tender phase. In 2020, on average 9 full-time equivalent managers were employed in BAMs Tenderdesk team, using an average of €100,000 per FTE per year, the associated total costs are €0,9 million (€100,000/FTE times 9 FTE = €0,9 million). Including additional costs for employee travel and IT charges/developments/support the total 2020 budget for the Tenderdesk team was €1,9 million.

Comment

The Tender Stage Gate process is now being used to assess all major tenders at BAM. In 2020 BAM assessed 80 unique A&B tenders (projects regarded as highly complex and/or with a contract value > €45 million) and pulled out of 42 per cent of large tenders because the risk/reward balance was considered not right. Of the tenders BAM pulled out of, 52 per cent was stopped at the early stages of the tender to prevent tender costs. Two thirds of this 52 per cent was stopped directly after assessing the clients tender documents.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Market

Changing customer behavior

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

There is an increasing demand for lower-carbon construction materials in construction. Notably in infrastructure, this emphasis is placed on asphalt, particularly in the Netherlands where the density of asphalt roads is particularly high. Our five largest clients in the Netherlands, which cover 80% of our revenue in infrastructure construction in this market, have increased the request for low-impact materials in their projects. The Dutch government is BAM Infra NLs largest customer when it comes to constructing roads and using asphalt. In 2020 BAM Infra NL tendered for 55 asphalt projects in the Netherlands (with a total revenue of €427 million) where environmental costs, including the carbon footprint of materials, was the deciding factor in awarding contracts.

Increasingly, the contractor with the lowest impact of its asphalt mixture is offered the contract. This pushes the market to innovate and develop asphalt mixtures with a lower carbon footprint. We expect the number of tenders with sustainable asphalt requirements in place to increase in coming years. The risk to BAM is that if we do not

innovate, we will lose our frontrunner position in asphalt innovation (in the Netherlands). This could lead to a worsened position in relation to our competitors and a loss in won asphalt tenders – ultimately resulting in decreased revenues.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

97,500,000

Potential financial impact figure – maximum (currency)

292,500,000

Explanation of financial impact figure

Explanation of financial impact figure:

The total revenue of infrastructure projects with a significant asphalt scope in 2020 in the Netherlands was approximately €1,5 billion. The average win-rate of these tenders in 2020 was 26%. This resulted in a total €390 million (€1,5 billion * 26%) revenue.

If BAM loses 25% - 75% of these significant tenders due to reduced demand for our asphalt products and services, the potential impact will be a decrease in revenue of €390 million * 25% = €97,5 million to €390 million * 75% = €292,5 million. The bandwidth of 25-75% is a rough estimation based on BAMs tender hit-rate of the last 3 years.

Cost of response to risk

1,150,000

Description of response and explanation of cost calculation

The production of asphalt is a process that requires large amounts of natural resources and energy. BAM is continuously innovating in the asphalt production process with a dedicated team of experts working at BAM Infra Asphalt in the Netherlands. Case study example: BAM developed a low-energy asphalt concrete (LEAB), an innovative type of asphalt that requires less energy and fewer natural resources and results in lower CO2 emissions than conventional asphalt. Case study example: In 2020, BAM applied 56,706 tonnes of LEAB (5% of the total asphalt production). LEAB is cost effective, as energy costs are reduced, and competitive, as it helps us gain a competitive advantage

in tenders (low carbon footprint impacts the clients reward). By developing low emission products like LEAB, BAM ensures demand for our products and services. In total, BAM has already applied more than 680,000 tonnes of LEAB-produced asphalt in its projects in the Netherlands, thanks to the close collaboration with clients who are equally convinced of the value of this innovative and sustainable method of asphalt production.

Explanation of cost calculation: Currently BAM Infra Asphalt (BIA) has 15 FTE fulltime working on the development of sustainable asphalt mixtures such as LEAB. The associated R&D costs are €1,5 million per year (at average € 100k p FTE yearly). Using an average cost of €100,000 per fte per year, the associated total costs are €1,5 million per year (15 fte times €100,000/fte). A part of this research is funded through grants from the European Commission of the Netherlands Enterprise Agency at an average of €300k per year. These funds are not included in the cost figure as BAM does not see them as direct cost). Therefore we arrived at a cost response figure of €1,500,000 – €350,000 = €1,150,000 per year.

Comment

Engagement with partners in the value-chain is key in BAM's risk management method. In 2020, BAM and Dutch competitor Heijmans jointly merged their asphalt plants in a new company called AsphaltNu. Heijmans and BAM are now set to combine their joint know-how, expertise and investments in the field of asphalt production. This will enable both companies to make their asphalt production chain more sustainable and more efficient. AsphaltNu will produce asphalt for both Heijmans and BAM, but also for third parties in the asphalt market. Collaboration offers opportunities to make better use of the available capacity and to improve the utilization rate of the asphalt plants resulting in an increase of revenue. Currently AsphaltNu is operating 8 asphalt plants across the Netherlands.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Market

Increased cost of raw materials

Primary potential financial impact

Increased direct costs

Company-specific description

For the procurement and bulk transport of raw materials, BAM strongly depends on its supply chain. Royal BAM Group spends around 70% of its yearly revenue on procurement of products and services. As such, an increase in the price of raw materials affects the Group's operating costs significantly. This is relevant for all products and

services procured by BAM. More specific, this is strongly relevant for asphalt - approximately 90% of all raw materials BAM uses for its asphalt production (for the most part crushed stone) are transported over water. In 2019 for example, low water levels in the river Rhine in the Netherlands led to a decreased loading capacity of 50-66%. The availability of crushed stone was at risk, making transport more critical and expensive. The extra costs suppliers and transporters made due to these upstream risks lead to increased cost of up to 400%. This directly affects BAMs operations and direct costs.

During 2020, severe drought and historical low river water levels in the Dutch Delta area were less of an issue but the risk of increased cost of raw materials remains a significant risk to BAMs operations. In 2020 for example, the availability of certified sustainable timber already started to become an issue in the construction sector in North West Europe – with further significant price increases up to 400% to be expected towards 2021. In addition to limited availability of raw materials, the potential financial impact could become even more significant - increased direct costs are often not (completely) covered by client and/or insurances. Therefore the increased cost of raw materials becomes a significant operating risk for BAM.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

0

Potential financial impact figure – maximum (currency)

288,000,000

Explanation of financial impact figure

Explanation of financial impact figure:

Cost increase of raw materials differs per type and availability of individual materials – which is the reason BAM can't give a generic financial impact figure for this risk. As an explanation the example of cost increase of asphalt-related materials is used to substantiate the financial impact figures. In 2020, BAM had a total asphalt material consumption of 1,400,000 tons and a total asphalt spend of €120 million. In total, 60% of the spend is related to the raw material crushed stone, representing a total value of €72 million. The cost increase in 2020 due to this risk was 0% (min) – 400% (max) per

ton. This results in a potential financial impact of increased operational costs from €0 million - €288 million (€72 million*400%).

Cost of response to risk

1,500,000

Description of response and explanation of cost calculation

Climate related risks such as low water in BAM's supply chain often lie within BAM's scope. BAM's primary response to this risk is to include price compensation clauses into contracts, and to negotiate (where possible) fixed price contracts with suppliers to reduce the risk of price fluctuations as much as possible. As a result, a low-water clause is applicable to the majority of raw material contracts and procurement agreements. This low-water clause includes agreements about the height of increased direct costs and the obligation for BAM to purchase raw materials. For asphalt production for example, BAM can determine to what extent and for what price the crushed stone will be purchased – depending on the water levels.

BAMs strategy to focus on continuous development of innovative and sustainable materials is a key-response on managing this risk as well. As a result, BAM is less dependent, reducing the dependency on the availability of raw-materials (that are transported over water) and it the potential impact of this risk on our direct operations. A 2020 case-study example of developing sustainable materials required for asphalt production is the A12 pilot project near Nootdorp in the Netherlands. In this project, BAM developed an innovative solution in a 2 kilometre test section where sustainable ZOAB mixtures with 80% and 95% recycled content were applied. The crushed stone of the old ZOAB road is used to create a new, sustainable asphalt mixture. The increased recycling percentage of ZOAB means that less stones need to be extracted from natural resources. Additionally, BAM realized such high reuse percentages of our self-developed ZOAB-mixture of up to 93% in two other case study examples on test sections on the N279 near Veghel and in the N338 around Doesburg, both in the Netherlands.

Explanation of cost calculation:

Adequate contract management at OpCo and at individual project level is the most important control measure for this risk. BAM Infra Asphalt for example has a central procurement department focusing on (legal) contract management. Within BAM, contract management is an integral part of the direct operations, hence, no additional investments or extra management costs are required. BAM Infra Asphalt (BIA) has 15 FTE fulltime working on the development of sustainable asphalt mixtures such as LEAB. Using an average cost of €100,000 per fte per year, the associated total costs are €1,5 million per year (15 fte times €100,000/fte).

Comment

Royal BAM Group spends around 70% of its yearly revenue on procurement of products and services. As such, an increase in the price of raw materials affects the Group's operating costs significantly. It is BAMs policy to not insure price-fluctuation risks. However, to form a general risk reserve, BAM introduced a Group wide Management

Reserve in the Tender Stage Gate Baseline. Depending on the type of work, 1-2% general risk must be included in the project. During 2020, BAM consistently implemented this across all project ensuring a €70 - €100 million provision to be able to absorb risks of all kinds, including price-fluctuation of raw materials.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

There is an increasing demand for low-energy buildings, part of the shift away from natural gas in the Netherlands. In 2050 all existing dwellings in the Netherlands must be low-energy assets. Starting with 100.000 dwellings before 2022 and additionally up to 200.000 transformations per year towards 2050. For new buildings and dwellings, a natural gas connection is already forbidden by Dutch law since June 2018. This requires both new solutions for new-builts as well as solutions to renovate existing dwellings. This is a huge opportunity with potential for BAM to increase revenue and offer new products and services within this growing market. BAM Residential, our Dutch business unit responsible for realising dwellings has a yearly revenue of approximately €750 million and has already realised more than 1,000 low-energy dwellings in the past few years. Given this size and market share, BAM is well positioned to take up this opportunity due to gained experience with these kind of projects in the Netherlands.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

225,000,000

Potential financial impact figure – maximum (currency)

250,000,000

Explanation of financial impact figure

The estimated market potential for the upcoming renovation program in the Netherlands towards 2022 is €900 million - €1000 million (€90.000 - €100.000 per house). BAM estimates that they could achieve a 25% share of this market potential, leading to a financial impact in the form of potential revenue increase of €225 million (€900 million*25%) - €250 million (€1 billion*25%) towards 2022.

Cost to realize opportunity

1,250,000

Strategy to realize opportunity and explanation of cost calculation

Together with 3 other construction companies and 6 corporations BAM Group is part of the initiative 'De Stroomversnelling' - focussing on the sustainable renovation of 111.000 existing houses. As part of this program, BAM Bouw en Vastgoed developed a sustainable renovation concept for existing assets, the 'NOM' (zero on meter) dwellings. In 2018, BAM Bouw en Vastgoed was the first company to be awarded full 'NOM' (zero on meter) certification for the design of these dwellings. The strategy to realize this opportunity is to ensure our clients a solid financial and sustainable business case - the achieved energy-efficiency improvement will cover the renovation costs. Through this certification, BAM is well-placed to continue building and renovating low-energy houses. In 2020, BAM realized 305 'NOM' dwellings (102 new and 203 renovated houses) with a total representative revenue of €40,2 million. Since BAM started with realizing 'NOM' dwellings in 2014, 1645 of these dwellings have been delivered by BAM.

Case study example: In 2020, BAM Bouw en Vastgoed transformed 72 family dwellings built in Roermond, the Netherlands into 'zero on the meter' homes – including technical measures to completely eliminate natural gas connections. Again, this is great case for BAM proving that there is an increased demand for the 'NOM' concept. This enables BAM to develop more existing assets into low-energy or energy-neutral buildings. Simultaneously BAM is working on expanding this concept to Belgium.

Explanation of cost to realize opportunity: Currently BAM has 8 FTE fulltime working on the sustainable renovation program. The associated costs are €0,8 million per year (at average € 100,000 p FTE yearly). (8 FTE x €100,000/FTE). External investments related to innovation of this concept is approximately € 150,000, which is matched with European funding for energy efficiency in buildings (these funds are not included in the cost figure as BAM does not see them as direct cost). In kind-investment for expansion of the programme in Belgium is approximately € 300,000 annually, which is also matched with funding (which is again not included in the cost figure). Therefore we arrived at €800,000 + € 150,000 + € 300,000 = €1,250,000.

Comment

There will be increased demand for modern, sustainable buildings and approaches to energy and carbon management which Royal BAM Group is well placed to deliver (e.g. energy neutral housing concept). There is significant potential for new work in the refurbishment market to upgrade existing buildings as fit for purpose in a low carbon economy in the UK.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of climate adaptation, resilience and insurance risk solutions

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Sea levels are expected to rise by up to 1 meter by 2100 as a result of climate change and so will the demand for infrastructure systems such as levies and other sea flooding protection structures. To maintain the resilience of these systems, it is essential to develop new solutions adapted to a changing climate so that we maintain and expand our competitive position within these markets.

Our business units BAM Infra and Infraconsult + Delta Marine Consultants (DMC) and BAM Nuttall already have a significant market share in BAMs home countries (mainly the United Kingdom and the Netherlands) and a proven track-record in climate-adaptation solutions (civil engineering marine-works). An example of a large climate adaptation project that BAM is currently undertaking is the renovation of the Dutch 'Afsluitdijk', the largest dike in the Netherlands that separates the North Sea from the inner lake 'IJsselmeer'.

With these business departments and experience, BAM is in an excellent position to benefit from this opportunity and increase revenue in civil engineering projects where climate adaptation plays an important role by offering innovative climate adaptation solutions to our clients.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

300,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

From 2020 onward there will be €1 billion annually available at the Dutch Deltafonds fund for climate adaptation solutions to protect the Netherlands from rising sea levels, such as construction and maintenance of dikes and research. This is significant market potential for BAM. We estimate similar market potential in the UK (national flood defence schemes) at an additional €2 billion. BAM estimates, based on the current share in these markets, that they could achieve a 10% share of this market potential, leading to a financial impact in the form of potential increased revenue of €300 million (0,1 x €3 billion).

Cost to realize opportunity

1,900,000

Strategy to realize opportunity and explanation of cost calculation

Fundamental behind managing a healthy order intake is BAM's Tender Stage Gate procedure - set up in 2016. All significant material tenders are guided through various stage gates based on the complexity and size of the tender (tender category). Through the process qualitative and quantitative risks and opportunities that may impact the success of the tender are considered. This allows us to focus on projects where we can add value through our climate adaptations and have a higher chance of acquiring projects. Our corporate Tenderdesk team (10 FTE) is responsible for this process.

Over the past 10 years, BAM is seeing a significant pickup in Marine works, of which the

vast majority are flood protection projects. In 2020 for example, BAM Nuttall had 26 active Marine works in their project portfolio of which 20 projects had a value of over £500,000 and 8 were over £5 million. BAM Nuttall expects this portfolio to double by the mid-2020s as more of these climate adaptation schemes become active. Currently, a further 40 schemes are in pre-construction phase.

A case study example of a significant flood protection project where BAM developed new adaptation solutions to a changing climate is the £100 million BAM Nuttall Boston Barrier project in the UK. In 2020, BAM delivered this scheme ensuring a fully operational barrier that will better protect 14,000 homes from tidal flooding. With this barrier in place, Boston town centre will be better protected against a tidal surge similar to what was experienced in December 2013, when almost 800 properties and business flooded across 55 streets.

Explanation of cost to realize opportunity: For the £100 million BAM Nuttall Boston Barrier project we applied the Stage Gate process in the tender phase. Our Tenderdesk team conducted peer reviews and tender assessment to identify our added value. In 2020, on average 9 full-time equivalent managers were employed in BAM's Tenderdesk team, of which the associated total costs are €900,000 (€100,000 per FTE per year). Including additional costs for employee travel and IT charges/developments/support the total 2020 budget for the Tenderdesk team is €1,9 million.

Comment

BAM's Tenderdesk assesses all BAM's significant tenders (projects regarded as highly complex and/or with a contract value > €45 million). For all significant projects in 2020 the same process was applied. BAM analyses in the tender phase whether a project offers an opportunity for the development of climate adaptation, resilience and insurance risk solutions and to ensure that we apply our climate adaptation experience in a timely setting.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

There is an increasing demand for low carbon solutions to ensure future energy needs in all BAMs home markets in North Western Europe (The Netherlands, Germany, United Kingdom, Belgium, Ireland). Specifically in the UK, the government identified new nuclear energy as essential if the UK is to meet its target of reaching net zero emissions by 2050 and tackle climate change.

In 2020, BAM Group performed a sector-wide product-market analyses (PMC analyses) identifying the global energy transition as a potential growth market for the company. As part of our strategic proposition on energy transition in infrastructure markets, BAM specifically identified nuclear power stations in the UK as a new market and large opportunity for BAM to increase revenue in the medium to long term (2-30 years). BAM is well positioned to increase its activity in this market as previous projects and experiences like providing the enabling works for Hinkley Point C new nuclear power station (€238 million contract) help us to bring relevant knowledge to the table in this new market.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,872,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

By 2050, a full UK nuclear power station programme of up to 16 of these power stations could create €60 billion of value to the UK economy and €293 billion of exports. Each power station will be able to provide 470 MW of electricity – leading to a total expected power capacity of 7.5GW. BAM is well positioned to take up these kind of projects due to gained experience with these kind of projects in the UK. The initial costs are €2.6 billion per SMR unit dropping to €2.1 billion by the time five have been completed.

The complete market potential for the UK represents a total potential revenue of approximately €33.6 billion (16x €2.1 billion) – €41.6 billion (16 x €2.6 billion). The estimated building scope for BAM (civil site factory and enabling works) is approximately €117 million per power station. In the medium term, BAM expects to be involved in all 16

power stations planned towards 2050. The estimated market potential for BAM in the UK represents a potential financial impact in the form of increased revenue of approximately €1,872 million (16x €117 million).

Cost to realize opportunity

9,600,000

Strategy to realize opportunity and explanation of cost calculation

BAM Nuttall are one of the key partners in a leading consortium developing, commercialising and implementing an affordable power plant that generates electricity using small modular nuclear reactors (SMR). The consortium members (Rolls-Royce, Assystem, SNC Lavalin, Wood, Arup, Laing O'Rourke, BAM Nuttall, Siemens, National Nuclear Laboratory (NNL), and Nuclear AMRC) represent the best of British nuclear energy capability, infrastructure project experience, and manufacturing technology. The programme objective is to deliver up to 16 SMRs in the UK.

A case study example of a significant nuclear project BAM has already been involved in since 2015 is Hinkley Point C new nuclear power station (€238 million contract). This challenging project is one of the largest scale ventures BAM Nuttall has been involved in, giving BAM opportunities to develop our techniques, our processes, and our people. With a 120-strong team at our peak, BAM developed some award-winning innovations such as specialized beam equipment and a unique containment liner for prefabrication. This resulted in successfully delivering the project to the client in 2020. With the gained experience on the Hinkley Point C project, BAM is in a strong position to bring valuable knowledge into the SMR consortium and utilize this opportunity by scaling the amount of nuclear projects BAM undertakes.

One of the key-innovations BAM developed in the SMR programme is a full-site canopy to ensure solid operations and a resilient construction process, even through periods of rain, snow and other extreme weather conditions. The average downtime and production loss on similar project in the UK due to extreme weather conditions is 30-40%. With the full-site canopy BAM developed in the SMR programme a significant cost reduction is ensured by giving more certainty during the construction process.

Explanation of cost to realize opportunity:

BAM have just completed Phase 1, our total investment in phase 1 was approximately €0,7 million. The UK government has committed a €251 million investment to the second phase of the SMR programme. BAM cost to realize this opportunity in phase 2 will be approximately €5.9 million. In 2020, on average 30 full-time equivalent managers were employed in this project, of which the associated total costs are €3.0 million (€100,000 per FTE per year). The total cost to realize this opportunity in 2020 are €9.6 million (€0,7 million + €5.9 million + €3.0 million).

Comment

SMRs can address the most significant challenges associated with conventional new nuclear power stations - high cost and long schedules. The programme of delivery is for the project to be taking orders in the next 18 months, with construction to be started

2025, with power on the grid by 2030. Additionally, the consortium partners established a target to construct each SMR within 500 days, which seemed impossible to achieve using traditional construction techniques. The consortium members have collaborated to combine approaches from the manufacturing sector, new technology, innovations, and BAMs specialist nuclear sector construction knowledge, to create a solution. BAMs full-site canopy solution effectively evolves the energy programme from a construction-based setting to using manufacturing techniques, achieving the same benefits. This resulted in achieving productivity improvements needed to meet the 500-day target.

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Is your organization’s low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, but we intend it to become a scheduled resolution item within the next two years	<p>Currently, our low-carbon transition plan is not yet a fixed and scheduled resolution item at BAMs shareholders meetings (AGMs). Each year however, our low carbon transition plan is discussed in the AGMs based on third-parties assessments of our Integrated Report. An example of engagement and discussion with these parties is with the Dutch Association of Investors for Sustainable Development (VBDO). Each year, the VBDO visits the shareholders meeting of the largest Dutch, stock-listed companies - ensuring and anchoring sustainability in companies. Typically topics discussed with VBDO during our AGMs are BAMs environmental and social performance.</p> <p>BAM intends to make our low-carbon transition plan a scheduled resolution item at the AGMs within the next two years. This will be done in close consultation with our Group general counsel and company secretary - responsible for the resolution items on the AGM agenda. During 2021 the specific aspects and frequency of scheduling our low-carbon transition plan as a resolution item at the AGMs will be discussed within BAM.</p>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
<p>2DS</p> <p>Other, please specify</p> <p>UKCIP02 and UKCP09</p>	<p>BAM conducts climate-related scenario analysis in two areas: at Group level to create and improve the perspective of its reduction targets, and at project level, to identify and evaluate the climate change adaptation requirements of the projects BAM constructs. Time horizons covered are short- (0-1 years), medium- (1-10 years) and long-term (10-30 years). Short and medium time horizons are relevant for BAM as they can affect the project portfolio. Long-term horizon is relevant in setting our strategy and assess future climate change resilience of the products BAM delivers.</p> <p>Description of climate-related scenario analyses and results at Group level: BAM has opted to set a science-based target that exceeds the minimum reduction requirements of the construction sector in the 2DS scenario. BAM used the IEA 2DS scenario as this has a proven track record for this type of analysis. The scenario was applied without any alterations to the underlying inputs, assumptions and methods used by the IEA. BAM uses this scenario to explore relevant climate change risks on both medium term (2030) and long term (2050), as these timeframes are both relevant for BAM but ask for a different strategic approach. The results of the analysis show that the effects of climate change of an average global temperature increase of 2 degrees in 2100 are manageable and would not significantly impact our business. BAM continuously monitors these risks and opportunities. The scenario analyses have informed BAMs business objectives and strategy as BAM used the results to set a science-based target for 2030. BAM linked this to its ambition of having a net positive impact on climate change, resources and people by 2050.</p> <p>Description of climate-related scenario analyses and results at project level: Within BAM Construct UK, climate scenario modelling is used at project level to inform designs for new buildings and refurbishments to identify potential impacts to building performance, user health, comfort and carbon emissions from future climate change effects. This applies to both risk and opportunities (for BAM and clients). This process of climate scenario modelling is applicable to all BAM Construct UK projects that include a design-scope. This has now influenced BAMs strategy and business objectives for future projects. The results of these</p>

	<p>scenario analysis at project level are directly related to the expected (additional) revenue as a result of design adaptation. The results of the scenario analysis have informed BAMs business that passive climate-based design now is a core-part of BAMs design processes. Based on these analyses, recommendations are made to the client for future mitigation strategies or the building design is changed to mitigate the risks. The inputs, assumptions and analytical methods used are based on CIBSE future weather files which draw from UKCIP02 climate projections (UKCP02 2002; CIBSE 2009) for historic data and UKCIP09 projections (UKCP09 2010) for future weather emissions. Both are considered on a long term horizon (2050 and 2080).</p> <p>A case study example is the Lincoln University Medical School in which BAM Construct UK engaged with the client pre-tender to discuss a net zero carbon approach. BAM was aware of the clients aspiration to become net zero carbon by 2030 and proposed an alternative design based on future energy use and climate change effects. BAM used modelling to analyze the impact of future weather patterns on energy performance. Results showed that the expected increase in average temperature meant that the initial cooling system was insufficient. Based on these results, it was BAMs proposal to change the climate design (ventilation system and spatial optimization of the building) which won us the €18.5 million project in 2019 and enabled the university to pursue net zero carbon. During 2020 the realization phase of the project started in which validation of the proposed design solutions is a key process.</p>
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C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>Both climate change risks and opportunities have already influenced BAMs strategy in the business area of products and services. As part of the strategic agenda, BAM is focusing on creating future portfolio within the program 'doing new things'. The time horizon covered within the strategy are short term (2020) and medium term (2030).</p> <p>The most significant risks and opportunities identified are related to an increasing demand for low-carbon products. For BAM, this requires the development of new solutions for new-builts as well as solutions to renovate existing assets. This is a tremendous opportunity for BAM to increase</p>

		<p>revenue and offer new products and services within growing markets. The identified risks and opportunities have already led to an increased share of low-carbon products and services in 2020.</p> <p>A case study of the most substantial strategic decision BAM made in 2020 is to increase the focus on development of low-carbon products (zero energy homes) in the Dutch Market. In 2018 already, BAM Bouw en Vastgoed (Dutch Construction and Property business unit) was the first company to be awarded full 'NOM' (zero on meter) certification for the design of these dwellings. In 2020, our strategy was to further ensure our clients a solid financial and sustainable business case, meaning that efficiency improvement will cover the renovation costs. With this strategy, BAM was well-placed to scale-up the building and renovating of low-carbon houses. In 2020, BAM realized 305 'NOM' dwellings (102 new and 203 renovated houses) with a total representative revenue of €40,2 million in the Netherlands. Since BAM started with realizing 'NOM' dwellings in 2014, 1645 of these dwellings have been delivered by BAM.</p> <p>BAM is also to focus its strategy more to low-carbon products in other markets, such as the UK and Germany, based on the positive impact this strategic decision already had in the Netherlands.</p>
Supply chain and/or value chain	Yes	<p>Climate-related risks and opportunities in parts of the supply chain have already influenced BAMs strategy in this area. Royal BAM Group spends around 70% of its yearly revenue on procurement of products and services. In general, risks and opportunities in the supply chain are identified at project level. Projects BAM undertakes have a typical time horizon coverage of a short (0-1 years) to medium-term (1-10 years).</p> <p>Typical risks identified with material suppliers in the supply chain (such as aggregate and concrete, steel and glass) are changing regulations and increasing costs and availability of raw materials and energy. This has already influenced BAM's strategy because this led to development of new products, increasing focus on recycled content and life cycle analysis. As part of reducing the dependency on raw materials, BAM is for example continuously innovating in the asphalt production process with a dedicated team of experts</p>

		<p>working at BAM Infra Asphalt (BIA) in the Netherlands. BAM developed a low-energy asphalt concrete (LEAB), an innovative type of asphalt that requires less energy and fewer natural resources and results in lower CO2 emissions than conventional asphalt.</p> <p>A case study of the most substantial strategic decision BAM made in 2020 is to continue the general risk reserve to cover foreseen and unforeseen (climate) risks. BAM introduced this Group wide Management Reserve in the Tender Stage Gate Baseline in 2019. Depending on the type of work, 1-2% general risk must be included in the project. If BAM consistently implements this across all projects, there is a provision of €70 - €100 million to be able to absorb risks of all kinds, including climate-related risks such as increased costs of raw materials.</p>
Investment in R&D	Yes	<p>BAM invests in innovation and R&D to: 1) Create competitive advantage based on innovation, and recurring superior financial returns for shareholders. 2) Improving product and project quality for our clients, and 3) Building a sustainable environment for society in general. Innovation on 'climate change and energy solutions' has been identified as a significant business opportunity for BAM and been made specific as a 'value space' in the 'Building Future Portfolio' aspect of BAM's 2020 strategy. In 2020 R&D and innovation influenced BAM's business and strategy since BAM continued investing in several innovation initiatives at Operating Company level.</p> <p>A case study of one of the most substantial strategic decisions BAM made in 2020 related to investment in R&D is the preparation of the strategic acquisition of Dutch façade producer Houtindustrie Stam & Landman bv (HSL) and Gevelementen Noord-Holland bv (GNH). HSL/GNH (annual turnover €20 million) are leading producers of complete, prefabricated wooden facade elements, and have been trusted suppliers to BAM for 25 years. Royal BAM Group (through its subsidiary BAM Bouw en Vastgoed Specials) will acquire all shares of from the current owners. The acquisition of these trusted partners is part of the strategy that BAM has set out for the coming years. This step allows BAM to leverage expertise and further innovate in sustainability, digitalization, modular and industrial construction. In the Dutch residential building market, activities are shifting from the construction site to</p>

		<p>manufacturing locations under controlled conditions. Further integrating the prefabricated modules in our innovative design and construction processes ('conceptual building') enables u to scale up our sustainable solutions more quickly to meet the wishes of clients and residents. In this way, BAM is responding to the increasing market demand for affordable homes.</p>
Operations	Yes	<p>Both climate change risks and opportunities have already influenced BAMs strategy and direct operations in 2020. As part of BAM's climate change strategy, BAM has set an Science Based CO2 reduction target in 2019 (medium term, 2030) on top of the short term (2020) CO2 reduction targets that already were in place. Driving down CO2 emissions in our operations is a key factor in BAM's CO2 reduction targets. The short term reduction targets and BAM's Science Based Target drives CO2 reduction in the short term and medium term time horizon.</p> <p>Every operating company (business unit) produces specific CO2 emissions management and reduction plans to ensure BAM plays its role in mitigating climate change risks, driving down CO2 emissions during operations and to contribute to the realization of (market and reputation) opportunities by improving BAM's sustainability performance. These plans are fully aligned with BAMs Science-Based targets at Group level.</p> <p>The most substantial strategic decisions related to direct operations that were taken in 2020 are:</p> <ul style="list-style-type: none"> - Investment of €500,000 in replacing the use of diesel generators by grid connection on construction sites. This resulted in an estimated CO2e saving of 831 tonnes in 2020. - Purchasing/hiring solar/hybrid equipment on projects. This resulted in an estimated CO2e savings of 1369 tonnes and a total of €200,000 was spend on this initiative. - Proactively increase the share of electric vehicles in the company car fleet by organising road shows for employees and support charging infrastructure at office and home locations, to reduce vehicle fleet emissions. This resulted in an CO2e saving of 680 tonnes in 2020. - Switching from coal to natural gas in an asphalt plant in the Netherlands, saving 982 tonnes of CO2e. - Ca. €4,000,000 was invested in the roll out of electric energy efficient site cabins in 2020, saving 397 tonnes of

		CO2e. In total, almost €5 million euro was invested in these initiatives and the initiatives saved over 4000 metric tons of CO2 emissions in 2020.
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C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Direct costs	<p>Direct Costs</p> <p>Description of influence related to electrifying company vehicle fleet: The climate-related risk of increasing fossil fuel costs combined with BAM's strategy to reduce CO2 emissions, stimulates BAM to look for opportunities to further reduce its fuel consumption. Two of the key-focus areas for BAM to reduce fossil fuel use of the company vehicle fleet and BAM's asphalt plants. This has a direct impact our financial planning processes on the short (0-1 years) and medium (1-10 years) time horizon.</p> <p>Case study example 1: In 2020, the impact of ongoing engagement with our lease-car supplier to jointly further electrify BAMs fleet resulted in a significant increase in electric vehicles within BAM. In 2020, BAMs total company vehicle fleet consists of 5020 vehicles. Currently, 9.4% of BAMs total vehicle fleet consists of electric vehicles (269 EV and 200 PHEV). The increase in EV vehicles has influenced our financial planning in 2020 and has already led to an estimated €300,000 reduction in operating costs (reduction of fossil fuel use). With an increasing fuel price and operating costs savings from further electrification this is expected to increase to several 100.000 of euros in the coming years. The potential of further electrifying BAMs complete vehicle fleet is considered to have a high impact on the financial planning process. Increasing the share of EV vehicles ultimately to 100%, the potential reduction in operating costs is an estimated €2.4 M annually (total direct operational cost savings due to complete reduction of fossil fuel use).</p> <p>Case study example 2: Climate related risks have also led to BAM deciding to switch the fuel of the last brown coal-fired asphalt plant to natural gas as of 1st January 2020. The additional operating costs are ca. €100,000 per year due to a higher fuel price of natural gas compared to brown coal. CO2 savings were 982 tons CO2e.</p>

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

As part of our Sustainability Strategy it is a goal of BAM to continue to be a frontrunner on sustainability in the construction sector. The challenge of mitigating climate change and the consequences of climate change require us to integrate climate-related risks and opportunities into our business strategy and processes, focusing on both climate change adaptation, reducing the use of virgin materials and implementing mitigation measures. BAM aims to be included in CDP's Climate Change A List, which is one of the sustainability benchmarks BAM uses to assess and report BAM's performance on climate-related issues. The business strategy includes that all operating companies (business units) of BAM make their own analysis with respect to climate related data and report quarterly to the executive board. Targets are set for CO2 emissions intensity (e.g. 25% reduction in 2020 compared to 2015, a verified Science Based Target of 50% reduction in 2030 compared to 2015), waste production and separation of waste on both business unit level and company level. The company strategy is therefore influenced by the business units so that it is integrated with BAM's overall sustainability strategy.

To support Royal BAM Group's Strategic Agenda, BAM developed and implemented Key Performance Indicators (KPIs) for measuring and reporting CO2 emissions and waste. Setting targets for 2020 and 2050 has given our strategy direction and helps us to measure performance. The most substantial business decision made that has been influenced by the climate change driven aspects of the strategy was the revising of BAM's remuneration policy regarding sustainability indicators. Previously, only the CDP climate change score was part of the remuneration policy, but now, also KPIs and targets on CO2 emission reduction and waste reduction are included, as BAM believes this will increase the incentive to invest in reduction measurements.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Year target was set

2015

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based) +3 (upstream)

Intensity metric

Metric tons CO₂e per unit revenue

Base year

2015

Intensity figure in base year (metric tons CO₂e per unit of activity)

30.9

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2020

Targeted reduction from base year (%)

25

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

23.175

% change anticipated in absolute Scope 1+2 emissions

25

% change anticipated in absolute Scope 3 emissions

0.06

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

20

% of target achieved [auto-calculated]

141.1003236246

Target status in reporting year

Achieved

Is this a science-based target?

No, but we are reporting another target that is science-based

Target ambition

Please explain (including target coverage)

Intensity short-term emission reduction target. This includes entire scope 1+2 emissions and travel related scope 3 emissions (employee commuting + business travel).

Target reference number

Int 2

Year target was set

2018

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Intensity metric

Metric tons CO₂e per unit revenue

Base year

2015

Intensity figure in base year (metric tons CO₂e per unit of activity)

28.5

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2030

Targeted reduction from base year (%)

50

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

14.25

% change anticipated in absolute Scope 1+2 emissions

35

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

18.8

% of target achieved [auto-calculated]

68.0701754386

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain (including target coverage)

Science based target for medium term scope 1 and scope 2 emission reduction. Initial target was verified and approved by SBTi in April 2019, and the updated target was verified and classified as 1.5°C aligned by SBTi in July 2021.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production

Net-zero target(s)

Other climate-related target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2018

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

Base year

2015

Figure or percentage in base year

5.9

Target year

2030

Figure or percentage in target year

100

Figure or percentage in reporting year

63.3

% of target achieved [auto-calculated]

60.9989373007

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, part of Int2

Is this target part of an overarching initiative?

Science-based targets initiative

Please explain (including target coverage)

As part of our science based target for medium term scope 1 and scope 2 emission reduction, the sourcing of 100% renewable electricity was included. Initial target was verified and approved by SBTi in April 2019, and the updated target was verified and classified as 1.5°C aligned by SBTi in July 2021.

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2015

Target coverage

Company-wide

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Waste management
metric tons of waste generated

Target denominator (intensity targets only)

unit revenue

Base year

2015

Figure or percentage in base year

21.6

Target year

2020

Figure or percentage in target year

16.2

Figure or percentage in reporting year

14.6

% of target achieved [auto-calculated]

129.6296296296

Target status in reporting year

Achieved

Is this target part of an emissions target?

No

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

As part of BAM's strategy to mitigate climate change it is key to operate more circular. Therefore, BAM has put an ambitious waste reduction target in place. The target covers all the construction and office waste of the entire company.

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Int1

Target year for achieving net zero

2050

Is this a science-based target?

No, but we are reporting another target that is science-based

Please explain (including target coverage)

As part of BAM's strategy 2015-2020, BAM has communicated the ambition to become climate positive (at least net-zero) by 2050. This covers the whole company.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	14	
To be implemented*	3	4,000
Implementation commenced*	1	5,000
Implemented*	6	30,400
Not to be implemented	2	

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Transportation
Company fleet vehicle replacement

Estimated annual CO₂e savings (metric tonnes CO₂e)

680

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

113,400

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

Shift to Electric vehicles in the Netherlands

Initiative category & Initiative type

Energy efficiency in production processes
Fuel switch

Estimated annual CO₂e savings (metric tonnes CO₂e)

982

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

100,000

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

Replacement of brown coal with natural gas in asphalt plant in the Netherlands

Initiative category & Initiative type

Energy efficiency in production processes

Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

831

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

200,000

Investment required (unit currency – as specified in C0.4)

500,000

Payback period

1-3 years

Estimated lifetime of the initiative

Ongoing

Comment

Putting grid connections in place to avoid the use of diesel fuelled generators

Initiative category & Initiative type

Energy efficiency in production processes

Electrification

Estimated annual CO2e savings (metric tonnes CO2e)

397

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

80,000

Investment required (unit currency – as specified in C0.4)

4,000,000

Payback period

>25 years

Estimated lifetime of the initiative

>30 years

Comment

Roll-out of energy efficient full electric site cabins.

Initiative category & Initiative type

Low-carbon energy consumption

Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

1,369

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

269,965

Investment required (unit currency – as specified in C0.4)

200,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Savings against fuel use mitigation by deploying solar/hybrid technologies.

Initiative category & Initiative type

Waste reduction and material circularity
Product or service design

Estimated annual CO2e savings (metric tonnes CO2e)

26,142

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

582,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

Cumulative improvements to projects relating to purchased goods and services efficiencies. These often occur from design changes BAM has affected and in most cases reduce the volume of materials needed to complete the works.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	It is part of BAM's strategy to drive down CO2 emissions as much as possible, which is also reflected in our ambitious Science Based CO2 reduction Target for 2030. In order to be successful, BAM needs to lower energy consumption and CO2 emissions in all parts of its business. Compliance with regulatory requirements/standards is always considered at project and business unit level. Occasionally, environmental requirements lead BAM to look for additional emission reduction activities.
Dedicated budget for low-carbon product R&D	It is part of BAM's strategy to drive down CO2 emissions as much as possible, which is also reflected in our ambitious Science Based CO2

	<p>reduction Target for 2030. In order to be successful, BAM needs to lower energy consumption and CO2 emissions in all parts of its business.</p> <p>BAM's innovation department focussing on R&D is closely linked with BAM's sustainability department, and many of our innovations lead not only to cost savings but also CO2 emission reductions, such as the Xbloc (a concrete armour system, of units that work together to ensure long term, reliable protection and the defence of breakwaters and shorelines), which requires less concrete, and therefore less energy and CO2 emissions, to manufacture.</p>
Employee engagement	<p>It is part of BAM's strategy to drive down CO2 emissions as much as possible, which is also reflected in our ambitious Science Based CO2 reduction Target for 2030. In order to be successful, BAM needs to lower energy consumption and CO2 emissions in all parts of its business.</p> <p>BAM's best ideas often come from its employees working on our projects. By engaging with our employees, BAM aims to collect best ideas for CO2 emission reduction activities and apply those in multiple projects to scale up the reduction.</p>
Financial optimization calculations	<p>It is part of BAM's strategy to drive down CO2 emissions as much as possible, which is also reflected in our ambitious Science Based CO2 reduction Target for 2030. In order to be successful, BAM needs to lower energy consumption and CO2 emissions in all parts of its business.</p> <p>Financial optimization calculations are always used during the tender phase of projects, and often CO2 reduction activities have a financial incentive as well. The best example is connecting construction sites to the grid in an early phase to avoid the use of generators.</p>
Partnering with governments on technology development	<p>It is part of BAM's strategy to drive down CO2 emissions as much as possible, which is also reflected in our ambitious Science Based CO2 reduction Target for 2030. In order to be successful, BAM needs to lower energy consumption and CO2 emissions in all parts of its business.</p> <p>BAM also partners with governments on technology development in many of the projects BAM runs for (semi-)government organisations. An example of this is the project the 'Rotterdamse Baan', which is planned to become the most sustainable tunnel in the Netherlands and for which BAM and the government have teamed up to come up with innovative solutions and CO2 emissions reduction activities.</p>

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

BAM Bouw en Vastgoed is involved in a programme to build new and refurbish existing homes to net-zero-energy homes. In 2020, BAM delivered 303 energy neutral homes for a total revenue of ca. €40 million.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Zero emissions in use phase guaranteed by BAM

% revenue from low carbon product(s) in the reporting year

0.6

Comment

Potential future revenue estimated up to 10%.

Level of aggregation

Group of products

Description of product/Group of products

BAM Properties develops speculative commercial property for the UK Market. It has targets to deliver designs which are 25% better than UK building regulations (min EPC A rating) in relation to Energy and to achieve a BREEAM rating of Excellent as a minimum.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

BREEAM

% revenue from low carbon product(s) in the reporting year

0.5

Comment

Potential future revenue up to 5%.

Level of aggregation

Product

Description of product/Group of products

BAM developed a new design of concrete armour units used for breakwaters and shore protection, the Xbloc+. The design of this blocs allow more efficient placement pattern and consequently lower amounts of concrete are needed for breakwater and shore protection compared to conventional alternatives. The requirement of less concrete in combination with a more practical and economic placement lead to CO2 savings both in the production and the transport/placement of Xbloccs.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Low-carbon performance guaranteed by BAM

% revenue from low carbon product(s) in the reporting year

0.2

Comment

Potential future revenue estimated up to 1%.

Level of aggregation

Group of products

Description of product/Group of products

Low carbon asphalt (LEAB and LE2AP) that BAM produces in their factories. The lower production temperature compared to conventional asphalt allow CO2 savings during the production, transport and placement of the asphalt. Besides, BAM continuously improves the resource efficiency of its asphalt production by optimizing process conditions and increasing use of recycled feedstocks.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product and avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Low-carbon performance guaranteed by BAM

% revenue from low carbon product(s) in the reporting year

0.5

Comment

Potential future revenue estimated up to 5%.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO₂e)

196,337

Comment

Scope 2 (location-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO₂e)

36,421

Comment

Scope 2 (market-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO₂e)

15,183

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO₂e?

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

117,867

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Our reporting is both location based and market based. However, BAM's 2030 verified Science Based target, which include scope 2 emissions, is market-based.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, location-based

25,946

Scope 2, market-based (if applicable)

10,167

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

CO2 emissions from the production of purchased heat, such as city heating

Relevance of Scope 1 emissions from this source

No emissions from this source

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

The CO2 emissions associated with the purchase of heat are considered insignificant. The energy use of our offices only contributes for 2.5% to our total CO2 emissions. Of this energy use in offices, less than 2% is estimated to be covered by district heating. Therefore, the potential CO2 emissions are not relevant and are excluded from BAM's overall energy consumption and related carbon emissions disclosure.

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

3,813,800

Emissions calculation methodology

Greenhouse Gas Protocol Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Procurement data for BAM is obtained from procurement database (BRAVO) in € spend per category. This data is combined with EEIO input output database to estimate associated CO₂ emissions.

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

70,809

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Contains the upstream emissions of the categories of the procurement database that involves capital goods defined as tangible assets that BAM uses to produce goods and services like buildings, machinery, equipment, vehicles and tools.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

36,146

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Calculated using energy consumption data for the entire group without any extrapolation. Energy consumption is multiplied by UK Defra emission factors.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

192,063

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Procurement data for BAM is obtained from procurement database (BRAVO) and is multiplied by specific EEIO factors for transportation and distribution.

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

61,010

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Calculated based on recorded waste data for the entire group. CO₂ emissions are calculated using WRAP tool emission factors.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

5,812

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Business travel data for the entire group, covering privately owned cars and air travel.

Business travel does not include emissions associated with commuting.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

3,425

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions associated with commuting are calculated by car using expense claims. This has been complemented with an estimate of emissions associated with commuting by modes other than cars.

Upstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

85,560

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Contains the upstream emissions of the categories of the procurement database that involves leased or rented assets.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

As a construction-services business, BAM's final products do not undergo downstream transportation and distribution and are delivered directly to the customer on-site.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

All products (e.g. buildings, infrastructure) are sold in final form, with no further processing required.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

3,423,808

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This covers all buildings built by Royal BAM's Construction and Property business line. Data is available on number of buildings developed in the UK and dwellings in NL, which is combined with building-type-specific benchmark data on energy consumption. A building lifespan of 75 years is assumed. Emissions are then calculated and extrapolated by revenue to cover the entire Construct and Property business line. We have chosen to exclude emissions associated with the Civil engineering business line of Royal BAM. This sector builds roads, tunnels, locks, dykes, ports, large rail infrastructure, etc. It is not clear how emissions could be estimated for the use of such construction projects, or how such emissions could be reduced.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

20,721

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions are estimated for all buildings constructed by the Construction and Property business line of Royal BAM. The total area of such buildings is calculated by extrapolating floor area of buildings completed by Construct UK and BAM Wonen to the Construction property business line, using revenue. Total floor area is then multiplied by a benchmark for mass of demolition waste per m². Mass of demolition waste is then allocated to different waste treatment streams. This is based on the breakdown for Royal BAM's treatment of demolition waste in the current year. Mass of waste in a given treatment stream is multiplied by WRAP emission factors for demolition. These do not include embodied emissions.

Downstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO2e

6,048

Emissions calculation methodology

GHGP Value Chain (Scope 3) Accounting and Reporting Standard.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Royal BAM has joint ventures which invest capital, lease the building to the user, and return the building at the end of the lease. Associated emissions are not currently reported under scope 1 and 2. BAM gathers energy use information of these assets. CO₂ conversion factors are used to calculate corresponding CO₂ emissions. These emissions are then multiplied by the percentage of the venture owned by Royal BAM. Only data for assets in UK and NL are currently included.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Royal BAM does not operate a franchising business model and has no franchises.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

The only investments made by Royal BAM are in their joint ventures. Associated emissions are included in BAM's scope 1 and 2 emissions or in scope 3 category 'downstream leased assets'. As there are no other investments that need to be taken into account, this category is not relevant.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

BAM's complete value chain is represented by the identified categories and no other relevant categories exist.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

BAM's complete value chain is represented by the identified categories and no other relevant categories exist.

C-CN6.6/C-RE6.6

(C-CN6.6/C-RE6.6) Does your organization assess the life cycle emissions of new construction or major renovation projects?

	Assessment of life cycle emissions	Comment
Row 1	Yes, both qualitative and quantitative assessment	

C-CN6.6a/C-RE6.6a

(C-CN6.6a/C-RE6.6a) Provide details of how your organization assesses the life cycle emissions of new construction or major renovation projects.

Projects assessed	Earliest project phase that most commonly	Life cycle stage(s) most commonly covered	Methodologies/standards/tools applied	Comment

		includes an assessment			
Row 1	New construction and major renovation projects meeting certain criteria (please specify) Projects where BAM does the design	Design phase	Whole life	EN 15978 EN 15804 One Click LCA	

C-CN6.6b/C-RE6.6b

(C-CN6.6b/C-RE6.6b) Can you provide embodied carbon emissions data for any of your organization’s new construction or major renovation projects completed in the last three years?

	Ability to disclose embodied carbon emissions	Comment
Row 1	Yes	

C-CN6.6c/C-RE6.6c

(C-CN6.6c/C-RE6.6c) Provide details of the embodied carbon emissions of new construction or major renovation projects completed in the last three years.

Year of completion

2020

Property sector

Other, please specify
Commercial and Education

Type of project

New construction

Project name/ID (optional)

ICEPS, Atlantic Square, 3&4 Pancras square, The Deanery, Q2 Sports Centre, T Zone, Somerton Primary School

Life cycle stage(s) covered

Whole life

Normalization factor (denominator)

Internal building volume

Denominator unit

square meter

Embodied carbon (kg/CO₂e per the denominator unit)

944.5

% of new construction/major renovation projects in the last three years covered by this metric (by floor area)

12.7

Methodologies/standards/tools applied

EN 15978

One Click LCA

Comment

Bundle consisting of 8 projects completed in the UK, at different points in the last 3 years.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.00001878

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

128,033

Metric denominator

unit total revenue

Metric denominator: Unit total

6,817,168,059

Scope 2 figure used

Market-based

% change from previous year

13.1

Direction of change

Decreased

Reason for change

BAM achieved a large scope 1 and 2 CO2 reduction in 2020 compared to 2019, partly caused by the scope 1 CO2 emission reduction activities as reported in C4.3b (electrification of lease fleet, replacement of brown coal by natural gas in asphalt plant, putting grid connections in place on construction sites, roll-out of energy efficient site cabins and deploying solar/hybrid technologies on construction sites). Other drivers for CO2 reduction were an increased share of renewable electricity consumption, reduced travel movements due to Covid-19 pandemic and the wind down of BAM International.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

No

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Netherlands	54,173
United Kingdom of Great Britain and Northern Ireland	23,541
Belgium	9,942
Ireland	9,037
Germany	9,695
Other, please specify Rest of the world. BAM International was active in 2020 in Sierra Leone, Tanzania, Indonesia, Australia, Antarctica, United Arab Emirates, Canada	11,479

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Construction and property	14,851
Civil Engineering	102,507
Public Private Partnerships and Holding	509

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Use of offices	3,321
Construction	56,575
Asphalt production	22,743
Use of vehicles	35,227

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Netherlands	11,958	885	25,497	24,364
United Kingdom of Great Britain and Northern Ireland	3,849	1,534	14,978	9,242
Belgium	1,212	519	6,898	4,635
Ireland	1,522	51	3,613	3,613
Germany	6,407	6,173	15,269	1,313
Other, please specify Rest of the world. BAM International was active in 2019 in Kenia, Sierra Leone, Tanzania, Indonesia, Australia, Antarctica, Costa Rica, Curacao, United Arab Emirates, Oman, Canada	998	1,005	1,972	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

By activity

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Construction and property	10,556	4,335
Civil Engineering	15,181	5,718
Public Private Partnerships and Holding	209	114

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Use of offices	4,041	1,116
Construction	20,767	8,383
Asphalt production	563	122
Use of vehicles	575	546

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
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Change in renewable energy consumption	2,391	Decreased	1.54	<p>The share of renewable electricity consumption increased from 54.1% in 2019 to 63.3% in 2020. The corresponding reduction in CO2 emissions is calculated as follows:</p> <p>The CO2 from grey electricity in 2020 is divided by the grey electricity share in 2020 and then multiplied by the grey electricity share of 2019 (9562 tons/36.7%*45.9%=11953 tons). This would have been the CO2 from grey electricity in 2020 if the renewable electricity share would have been equal to 2019. The difference between the 'would have been CO2 from grey electricity in 2020' and the actual CO2 from grey electricity in 2020 (11953 tons-9562 tons=2391 tons) is the change (decrease) in emissions allocated to the increased share in green electricity in 2019.</p> <p>The relative reduction is calculated by dividing the reduction by the total scope 1+2 emissions of 2019 (-2391 ton/155698 ton * 100%= -1.54%, i.e. a 1.54% decrease in emissions).</p>
Other emissions reduction activities	4,259	Decreased	2.74	<p>In 2020, 4259 tons of CO2e were reduced by our scope 1 and 2 emissions reduction initiatives as disclosed in C4.3b (680+982+831+397+1369=4259). Our total Scope 1 and Scope 2 emissions in the previous year (2019) were 155698 tCO2e, therefore we arrived at an emissions value percentage of -2.74% through (-4259/155698) * 100%= -2.74% (i.e. a 2.74% decrease in emissions).</p>
Divestment				
Acquisitions				
Mergers				
Change in output	8,465	Decreased	5.44	<p>Revenue and output decreased significantly in 2020 compared to 2019. The relative change in CO2 emissions (emission value) is calculated by dividing the change between the 2020 revenue and the 2019 revenue with the 2019 revenue</p>

				<p>$((6817\text{Meuro}-7209\text{Meuro})/7209\text{Meuro} = -5.44\%$, i.e. a 5.44% decrease in emissions). The absolute change in scope 1 and scope 2 emissions is calculated by multiplying the relative decrease with the total scope 1 and scope 2 emissions of 2019 ($-5.44\%*155698=-8465$).</p>
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified	179	Decreased	0.12	<p>Unidentified emissions are the sum of smaller emission reduction activities not disclosed in C4.3b and changes in type and phases of projects. The total is the difference of the total scope 1 + 2 emissions reduction disclosed and the sum of the other changes in this table ($27665-(2391+4259+8465+12371)=179$). The relative change is calculated by dividing the total by the total 2019 scope 1 + 2 emissions ($=-179/155698\text{ton} *100\% = -0.12\%$, i.e. a 0.12% decrease in emissions).</p>
Other	12,371	Decreased	7.95	<p>The category other comprises reduced travel activities due to the Covid-19 pandemic and the wind down of BAM International. The reduced travel activities due to Covid-19 saved ca. 6200 tons of CO2 in 2020. The emission reduction of the wind down of BAM International is calculated by subtracting the 2019 scope 1+2 emissions of BAM International with the 2020 scope 1+2 emissions of BAM International ($18656-12484=6171$). The total emission reduction attributed to the category other is the sum of the emission reduction due to Covid-19 and the wind down of BAM International: $6200\text{ tons} + 6171\text{ tons} = 12371\text{ tons}$ (reduction). The relative reduction is calculated by</p>

				dividing the reduction by the total scope 1+2 emissions of 2019 (-12371 ton/155698 ton * 100%= -7.95%, i.e. a 7.95% decrease in emissions).
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C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	466,568	466,568
Consumption of purchased or acquired electricity		43,168	25,059	68,227
Consumption of self-generated non-fuel renewable energy		899		899
Total energy consumption		44,067	491,627	535,695

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

116,752

Emission factor

1.9

Unit

kg CO2e per m3

Emissions factor source

Different factors applied per country:

Netherlands, Belgium and Germany: 1.785 kg CO2 per m3. Source:

<https://www.co2emissiefactoren.nl/>

UK and Ireland : 2.023 kg CO2 per m3. Source: GOV UK, 2019

Rest of World : 2.003 kg CO2 per m3. Source: IPCC

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

306,047

Emission factor

2.67

Unit

kg CO2e per liter

Emissions factor source

CO2 conversion factors provided by the Dutch Government

(<https://www.co2emissiefactoren.nl/>)

Comment

Fuels (excluding feedstocks)

Petrol

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

28,343

Emission factor

2.3

Unit

kg CO₂e per liter

Emissions factor source

CO₂ conversion factors provided by the Dutch Government
(<https://www.co2emissiefactoren.nl/>)

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

101

Emission factor

1.7

Unit

kg CO₂e per liter

Emissions factor source

CO₂ conversion factors provided by the Dutch Government
(<https://www.co2emissiefactoren.nl/>)

Comment

Fuels (excluding feedstocks)

Lignite Coal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4,223

Emission factor

2.02

Unit

metric tons CO₂e per metric ton

Emissions factor source

CO₂ conversion factors provided by the Dutch Government
(<https://www.co2emissiefactoren.nl/>)

Comment

Fuels (excluding feedstocks)

Propane Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

5,436

Emission factor

1.53

Unit

kg CO₂e per liter

Emissions factor source

CO₂ conversion factors provided by the Dutch Government
(<https://www.co2emissiefactoren.nl/>)

Comment

Fuels (excluding feedstocks)

Other, please specify
Heating oil

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

5,667

Emission factor

2.67

Unit

kg CO2e per liter

Emissions factor source

CO2 conversion factors provided by the Dutch Government
(<https://www.co2emissiefactoren.nl/>)

Comment

The emission factor for heating oil is set equal to emission factor of diesel

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	899	899	899	899
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Netherlands

MWh consumed accounted for at a zero emission factor

24,364

Comment

All electricity in the Netherlands is purchased from the supplier 'Eneco', with energy attribute certificate for 100% Dutch wind power.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling

United Kingdom of Great Britain and Northern Ireland

MWh consumed accounted for at a zero emission factor

9,242

Comment

In the United Kingdom, the green electricity purchased varies from region to region and sometimes even from project to project. Therefore, the green electricity purchased from multiple suppliers are combined in this row. Different types of green (low-carbon) electricity are provided, all supported by energy attribute certificates.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Belgium

MWh consumed accounted for at a zero emission factor

4,635

Comment

In Belgium, the green electricity purchased varies from region to region and sometimes even from project to project. Therefore, the green electricity purchased from multiple suppliers are combined in this row. Different types of green (low-carbon) electricity are provided, all supported by energy attribute certificates.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Ireland

MWh consumed accounted for at a zero emission factor

3,613

Comment

In Ireland, the green electricity purchased varies from region to region and sometimes even from project to project. Therefore, the green electricity purchased from multiple suppliers are combined in this row. Different types of green (low-carbon) electricity are provided, all supported by energy attribute certificates.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Germany

MWh consumed accounted for at a zero emission factor

1,313

Comment

In Germany, the green electricity purchased varies from region to region and sometimes even from project to project. Therefore, the green electricity purchased from multiple suppliers are combined in this row. Different types of green (low-carbon) electricity are provided, all supported by energy attribute certificates.

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Waste

Metric value

14.6

Metric numerator

tonnes

Metric denominator (intensity metric only)

unit of revenue (Meuro)

% change from previous year

17

Direction of change

Decreased

Please explain

Construction and office waste intensity. The target for 2020 was 16.2 tonnes/Meuro.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Throughout the company, BAM invests in research and development of new technologies and products, of which low-carbon products and services are a key focus point. In 2020, investment in low-carbon R&D took place at Operating Company level through several innovation initiatives that were being developed. Development took place in different technology areas – with the majority of initiatives currently being developed in the pilot demonstration stage.

C-CN9.6a/C-RE9.6a

(C-CN9.6a/C-RE9.6a) Provide details of your organization’s investments in low-carbon R&D for real estate and construction activities over the last three years.

Technology area

New building materials

Stage of development in the reporting year

Pilot demonstration

Average % of total R&D investment over the last 3 years

≤20%

R&D investment figure in the reporting year (optional)

Comment

Research into Microbially-Induced Calcite Precipitation (MICP) – using bacteria to produce calcite (CaCO₃) in the pores of soils/fractures in rock and concrete, as well as research into low carbon asphalt production and reusability.

Technology area

Building energy management systems

Stage of development in the reporting year

Pilot demonstration

Average % of total R&D investment over the last 3 years

≤20%

R&D investment figure in the reporting year (optional)

Comment

Development of an integrated performance service allowing clients to share energy with others and buy energy from partners on a professional, international energy- and data sharing platform.

Technology area

Construction methods

Stage of development in the reporting year

Large scale commercial deployment

Average % of total R&D investment over the last 3 years

≤20%

R&D investment figure in the reporting year (optional)

Comment

Off-site modular construction and 3D printing (enabling reuse of elements and better resource efficiency)

Technology area

Other, please specify
Propositions for low-carbon transportation

Stage of development in the reporting year

Pilot demonstration

Average % of total R&D investment over the last 3 years
≤20%

R&D investment figure in the reporting year (optional)

Comment

Development of new propositions for new low-carbon transportation solutions such as a smart mobility platform to improve bike-ability of cities as well as development of the Hyperloop technology.

C-CN9.10/C-RE9.10

(C-CN9.10/C-RE9.10) Did your organization complete new construction or major renovations projects designed as net zero carbon in the last three years?

Yes

C-CN9.10a/C-RE9.10a

(C-CN9.10a/C-RE9.10a) Provide details of new construction or major renovations projects completed in the last 3 years that were designed as net zero carbon.

Property sector

Residential

Definition(s) of net zero carbon applied

National/local green building council standard, please specify

National/local green building council standard: NOM keur

(<https://nomkeur.nl/eisennomkeur/>), a Dutch standard for zero energy dwellings.

% of net zero carbon buildings in the total number of buildings completed in the last 3 years

0.5

Have any of the buildings been certified as net zero carbon?

Yes

% of buildings certified as net zero carbon in the total number of buildings completed in the last 3 years

0.5

Certification scheme(s)

Other, please specify

NOM keur (<https://nomkeur.nl/eisennomkeur/>), a Dutch standard for zero energy dwellings.

Comment

Over the past 3 years, BAM's Dutch Construction and Property business line constructed 1190 certified zero energy dwellings.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 bam-2020.pdf

Page/ section reference

Third party assurance statement: pages 185-195

Carbon emissions: pages 36-39

Relevant standard

Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 bam-2020.pdf

Page/ section reference

Third party assurance statement: pages 185-195

Carbon emissions: pages 36-39

Relevant standard

Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 bam-2020.pdf

Page/section reference

Third party assurance statement: pages 185-195

Carbon emissions: pages 36-39

Relevant standard

Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Employee commuting

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 bam-2020.pdf

Page/section reference

Third party assurance statement: pages 185-195

Carbon emissions: pages 36-39

Relevant standard

Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Progress against emissions reduction target	Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants	All sustainability information disclosed in our integrated report, including de modules selected, are verified by our accountant, as stated in assurance statement of BAM's auditor in chapter 8.1 (pages 185-195) in BAM's Integrated Report.  1
C6. Emissions data	Year on year change in emissions (Scope 1 and 2)	Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants	All sustainability information disclosed in our integrated report, including de modules selected, are verified by our accountant, as stated in assurance statement of BAM's auditor in chapter 8.1 (pages 185-195) in BAM's Integrated Report.  1
C7. Emissions breakdown	Year on year change in emissions (Scope 1 and 2)	Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants	All sustainability information disclosed in our integrated report, including de modules selected, are verified by our accountant, as stated in assurance statement of BAM's auditor in chapter 8.1 (pages 185-195) in BAM's Integrated Report.  1
C8. Energy	Renewable energy products	Standard 3810N Assurance engagements relating to sustainability reports of the Royal	All sustainability information disclosed in our integrated report, including de modules selected, are verified by our accountant, as stated in assurance statement of BAM's

		Netherlands Institute of Registered Accountants	auditor in chapter 8.1 (pages 185-195) in BAM's Integrated Report. 📎 1
C8. Energy	Energy consumption	Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants	All sustainability information disclosed in our integrated report, including de modules selected, are verified by our accountant, as stated in assurance statement of BAM's auditor in chapter 8.1 (pages 185-195) in BAM's Integrated Report.

📎 1bam-2020.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

EU ETS

% of Scope 1 emissions covered by the ETS

19.3

% of Scope 2 emissions covered by the ETS

1.2

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

6,336

Allowances purchased

13,930

Verified Scope 1 emissions in metric tons CO2e

22,743

Verified Scope 2 emissions in metric tons CO2e

122

Details of ownership

Facilities we own and operate

Comment

In 2020, BAM used allowances from previous year to cover the remainder of the CO2 emissions of BAM's asphalt plants.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

The CO2 emissions of BAM's asphalt plants which are covered by the European Union Emissions Trading System. BAM closely monitors CO2 emissions related to asphalt production and identifies expected trends in an early stage, so that BAM can anticipate its (future) compliance to the ETS system and can act accordingly (e.g. by purchasing additional allowances) in time. BAM outsources the purchasing and allocation of its allowances to the company "Emissioncare.nl". In 2020, BAM used allowances from previous years and purchased 13,930 allowances to cover the CO2 emissions. In order to comply to the ETS system BAM is actively looking to reduce CO2 emissions from its asphalt plants to avoid the need of purchasing too many additional allowances in the future.

A case study of how BAM applies this strategy is the switch from brown coal to natural gas in the last coal-fired asphalt plant in the Netherlands, reducing the CO2 emission of this asphalt plant per tonne of asphalt produced by ca. 30%. This has saved 982 tonnes of CO2e in 2020. BAM also continues to invest in research and design to find methodologies to decrease emissions from its asphalt plants. An example is the development of LEAB, an asphaltic mix which is used for bedding and centre-layers of asphalt constructions. The properties of this mixture are identical to those of gravel surfacing. The main difference with conventional gravel surfacing is that because of the application of a so called 'foamed bitumen technology' the typical production temperature is situated around 100 Celsius Degrees, which results in a reduction of energy use up to 40% and a reduction of CO2 emissions of 25%-40% during the asphalt production process. Another example is that BAM won support for the LIFE+ project LE2AP. This project has developed a new and more environmentally-friendly asphalt mix made from over 80 % reclaimed asphalt materials. It will also demonstrate a more efficient paving method. As well as reducing the energy consumption of these two processes by 35 %, the project also expects to cut the following emissions: Hydrocarbons by 80 %; particulate matter by 10%; NOx by 50 %; CO and CO2 by 35 %; and odours by 80%.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Fugitive

Project identification

Project 3195 : Shaqu Coal mine CMM to power generation Phase 2 Project
(<https://cdm.unfccc.int/Projects/DB/TUEV-SUED1260197300.61/view>)

Verified to which standard

CDM (Clean Development Mechanism)

Number of credits (metric tonnes CO₂e)

970

Number of credits (metric tonnes CO₂e): Risk adjusted volume

970

Credits cancelled

No

Purpose, e.g. compliance

Compliance

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Drive low-carbon investment

GHG Scope

Scope 1

Scope 2

Application

BAM commissioned a Socio economic impact assessment of production of low energy and emission asphalt pavement (LE2AP). The study was performed by “True Price”, and an actual social/environmental price was set on the emission of CO₂.

Actual price(s) used (Currency /metric ton)

110

Variance of price(s) used

No variance was used.

Type of internal carbon price

Shadow price

Impact & implication

The True Price study provided BAM insight into the size of environmental impacts occurring in the asphalt production chain, and made those impacts comparable. Energy use, material use and ecotoxicity turned out to be the largest remaining environmental externalities for BAMs innovative asphalt mixture LE2AP.

The use of a carbon price supports better decision-making and the results show that sustainable innovations, such as LE2AP, can create additional value to society. Over its life cycle, LE2AP reduces environmental costs by €3.56/ton (34% reduction) compared to conventional asphalt. BAM uses the results of this study to promote its LE2AP product and to incentivise future innovations in our asphalt production process and asphalt plants. BAM’s long term goal is to increase the market share of its sustainable asphalt.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Offer financial incentives for suppliers who reduce your operational emissions (Scopes 1 & 2)

% of suppliers by number

2

% total procurement spend (direct and indirect)

30

% of supplier-related Scope 3 emissions as reported in C6.5

5

Rationale for the coverage of your engagement

As a constructor, suppliers are essential to BAM, and we therefore engage with almost all of our suppliers. Their knowledge, people and other resources provide 75% of BAM's turnover (approx. €5 billion) which BAM brings as value (sustainable projects) to its customers. BAM engages with suppliers that directly affect BAM's operational emissions, as reducing our operational emissions is a key target for BAM. These suppliers include: energy suppliers, lease car companies, waste processors and construction equipment suppliers. These suppliers are identified through our BRAVO procurement database where every supplier is labelled. Although these suppliers only cover ca. 5% of our scope 3 emissions, they do cover a significant amount of our total procurement spend. Based on our procurement database 'BRAVO', these suppliers account for ca 30% total procurement spend. BAM has ambitious scope 1 and 2 CO2 emission reduction targets and engagement with these specific suppliers is crucial in meeting these reduction targets. BAM engages with these suppliers during contract negotiations, where measures that lead to CO2 reductions in BAM's operational emissions are part of the selection criteria and/or are incentivized.

An example of this engagement is our Dutch lease car provider, in which in the contract is included that this supplier supports the electrification of our lease fleet and proactively provides ideas to speed up this transition. As a result, this Dutch lease car provider started organizing roadshows at BAM office locations in 2020 where employees could test drive electric vehicles, accelerating the amount of our employees opting for an electric vehicle as their new lease car.

Impact of engagement, including measures of success

The measure of success of climate related supplier engagement is scope 1 and 2 CO2 reductions achieved as a result of the supplier engagement. Several ongoing engagement and incentivization activities with suppliers have already achieved positive outcomes in the form of reduced scope 1 and 2 CO2 emissions. BAM's vehicle fleet and energy consumption on construction sites represent the largest portion of its CO2 emissions.

An example of a positive outcome in 2020 was the engagement with our lease car supplier in the Netherlands has led to an increased share of electric vehicle use in 2020, saving 680 tonnes of CO₂. This engagement is a key part of our strategy. In our CO₂ emission reduction strategy, BAM has set the ambition to increase the share of electric vehicles in the vehicle fleet to 50% in 2030 as part of our Science-Based Target. Another example of a positive outcome is the engagement with electricity suppliers and grid operators to enable early grid connection on our projects. By putting early grid connections in place, less generators are needed and less fuel is combusted. As a result of engagement with electricity suppliers and grid operators, BAM saved 831 tons of CO₂ in 2020. Specifically in the UK, engagement with suppliers providing PV and hybrid equipment solutions on project sites has been a key-topic – saving an additional total 1,369 tons of CO₂ in 2020.

Comment

BAM also engages with suppliers of key construction materials such as steel, concrete and resources for the production of asphalt. Engagement with these suppliers to explore the use of alternative and more efficient materials enables potential scope 3 CO₂ emission reductions in the category purchased goods and services.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Collaboration & innovation

Details of engagement

Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number

40

% of customer - related Scope 3 emissions as reported in C6.5

44

Please explain the rationale for selecting this group of customers and scope of engagement

BAM recognizes that real business benefits can only be achieved by involving all of its stakeholders. BAM continuously engages with (semi-) public customers in all home countries, especially throughout the business line Civil Engineering. This group was chosen because public organisations represent the core group (80%) of BAMs customers in the Civil Engineering business line. The reason for engagement with these group of customers is that public customers almost for all tenders have sustainability requirements in place, as part of their plans to meet European/national climate targets. As the number of customers is roughly equal between our 2 business lines, this core

group covers 40% (50%*80%) of our total customers. In 2020, these customers represented a total generated revenue of €3,594 million. Engaging with these customers on these sustainability topics is key in winning tenders and maintain our level of revenue.

The scope of our engagement during the tender phase typically includes discussions with the client to make projects more sustainable (both construction phase and the final product). BAM is doing this by pro-actively hosting dialogue-sessions and joining sector-wide market consultations. Across all projects, BAM runs campaigns and focussed dialogue sessions with customers to encourage innovation with the aim to reduce climate change impact in our direct operations. Typical topics discussed during this engagement are CO2 reduction measures and the carbon footprint of supplied goods. Additionally, BAM also performs Life Cycle Assessment in consultation with these customers to calculate environmental footprint and optimise CO2 reductions in construction and operation phase.

Impact of engagement, including measures of success

The measure of success for BAM is the reduction in CO2 emissions during construction and operation phase of projects. An example of positive outcome achieved is the significant reduction of CO2 emissions in both construction phase and operation phase during the tender phase of the BAM Infra project 'Vechtdalverbinding'. The client was the Dutch province of Overijssel. During the tender various environmental life-cycle assessments (LCAs) with specific focus on material savings were conducted. Positive outcomes achieved are innovative design optimizations related to the three key materials in the project (asphalt, concrete and reinforcement steel). According to the measure of success chosen, this resulted in a total CO2 reduction in the operation phase of 29% compared to the client's initial design. Additionally to these material savings, BAM's distinctive bid also included four specific transport and building logistics measures to further reduce the CO2 emissions of this project during the construction phase. According to the measure of success chosen, the use of local resources for bulk materials (sand/ground), the use of biodiesel and efficient equipment resulted in a total additional CO2 reduction in the operational phase of 47%. In 2020, realisation of the Vechtdalverbinding project started. Monitoring the effect of the measures BAM offered in the tender is a key-aspect of the engagement with the client during the construction phase – ensuring a solid validation of the offered CO2 reduction savings.

Additionally, this engagement with customers is key in winning tenders. The effect of this engagement for BAM is the many tenders BAM won. For example, in 2020 Dutch civil working company BAM Infra NL was involved in 55 asphalt tenders (with a total revenue €427 million). At these tenders, more than 60 % of the described value was expressed in sustainability terms. BAM won 25% of this subset by engaging with customers during the tender phase.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

Besides suppliers and customers, BAM engages with other key-stakeholder groups as part of our value chain engagement. BAM defined the following stakeholder groups with whom we choose to engage frequently: providers of financial capital, employees, society and regulators (NGOs (local) governments and knowledge institutes). These groups in the value chain were chosen because these stakeholders significantly influence or are influenced by the economic, environmental and social performance of BAM and . The group has identified these stakeholders based on the risks and opportunities for its business performance, strategy execution and BAM's strategic objectives. BAM's primary methods of engagement to understand their priorities and concerns are through benchmarking, sector meetings, client surveys and direct contacts.

A 2020 case-study example of climate-related engagement in the value chain is BAM's participation in the Hardt Hyperloop development. Currently, companies, organizations, and governments from all over the world are working towards a standard for the Hyperloop - a new sustainable alternative for long-distance flight travelling and aviation. Currently, aviation is responsible for 12% of CO2 emissions from all transport's sources globally and therefore an important factor in climate-change. As a frontrunner in addressing climate change, BAM wants to contribute to developing new and sustainable technologies. That's why BAM, as the only construction company in the sector, participates in the Hardt hyperloop development. Hardt is currently one of the leading companies in this area. Together with industry leaders (Tata steel, IHC), semi-public organizations (InnoEnergy, NS, ProRail, Schiphol Group), knowledge institutes, Delft University of Technology and the Dutch government, Hardt wants to set the international standard for hyperloop technology. This partnership and value chain engagement focusses on creating future portfolio opportunities, one of the key pillars under BAM's strategy 'Building the present, creating the future'. BAM measures success and positive outcomes of this engagement through its Group Innovation team that manages climate-related opportunities and innovation successfully through BAM's innovation funnel process. This process consists of 5 stages with 4 gates in between them, where each stage has a specific focus. In each stage assumptions are validated and in order to move to the next stage and to determine whether to invest/continue investment, risks and opportunities related to the value proposition of the new product are assessed by a central committee (the Business Innovation Committee). The coming years, BAM further engages with Hardt and all other hyperloop partners with the ambition to build a fully operational 3-kilometer test track within 4 years and create the first hyperloop-test facility in Europe.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

- Direct engagement with policy makers
- Trade associations
- Funding research organizations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Energy efficiency	Support	BAM developed the energy efficient material LEAB, i.e. asphalt concrete produced at temperatures up to 100°C, (normal asphalt concrete is produced at 165°C). The performance properties of LEAB equal those of normal asphalt concrete. To prove that application of LEAB leads to the same pavement performance in practise BAM Infra Asphalt is involved in empirical research with the Dutch Ministry of Infrastructure and the Environment (DVS, RWS). The research indicates that the performance of LEAB in practise is equal to the performance of normal asphalt concrete. Today the research is extended to LEAB-PA, i.e. Low Energy Porous Asphalt. The contribution of BAM to the DVS research is mainly practical.	BAM supported this initiative and engaged in order to prove that application of LEAB leads to the same pavement performance in practise as normal asphalt concrete. In 2020 BAM further engaged with the Dutch Road- and Waterways Agency Rijkswaterstaat and started a verification and validation process of these asphalt mixtures. The official verification is achieved early 2020. By engaging with this policy maker, BAM is involved in discussions related to legislation of sustainable asphalt mixtures.
Adaptation or resilience	Support with minor exceptions	UK Green Building Council – BAM Construct UKs Head of Sustainability is a member of the Members Advisory Group	Our Head of Sustainability at BAM Construct UK sits on the steering committee for the Advancing Net Zero Programme, co-sponsored by BAM. The aim of this is to agree the definition of zero carbon for the built environment, to provide a framework and to provide industry and government mechanisms to transition new and existing buildings to become net zero carbon by 2050, in line with the ambitions of the Paris Climate Agreement.

<p>Other, please specify</p> <p>Sustainable Procurement and education</p>	<p>Support</p>	<p>UK – Royal BAM Group is a partner of the Supply Chain Sustainability School, a non-profit, collaboration of partners to provide free learning and support on key sustainability topics for the supply chain</p>	<p>BAM Nuttall’s Company Energy Manager also sits on the Carbon Special Interest Group at the SCSS. The aim of this group is to provide a standard and consistent way of measuring and reporting on scope 1 and scope 2 carbon emissions in line with government efforts to achieve its 2050 Net Zero commitments under the Paris Climate Agreement.</p>
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C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Bouwend Nederland

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association’s position

Regarding climate change, Bouwend Nederland’s lobby focusses on the following: to reduce energy consumption of existing buildings, to create energy-efficient new buildings, to enhance sustainable procurement, to enhance sustainable material use, to create sustainable tools and certification, to measure environmental impact. These targets are in line with Dutch conventants and Green Deals that Bouwend Nederland agreed on. The position from Bouwend Nederland on climate change is that the construction industry in NL needs to focus more on energy-reduction initiatives.

How have you influenced, or are you attempting to influence their position?

BAM has been lobbying to put climate change central in sustainability policies. An important lobby in 2020 was aimed towards BAM’s largest (semi)-public customers. Via Bouwend Nederland, BAM suggested its customers should explicitly integrate sustainability requirements in tenders. Another aspect BAM has been lobbying for was to focus on a Total Cost of Ownership (TCO) assessment during the award of tenders.

Trade association

German Construction Industry Federation (HDB)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Alongside topics such as groundwater and soil protection and environmental and waste legislation, the committee focuses on current key issues on how to achieve a more rapid energy transition in Germany and conserve resources through energy savings. The position of HDB on climate change is to focus primarily on energy efficiency. As part of its ongoing transition to a sustainable energy system, Germany aims to have an almost climate-neutral building stock by 2050. Three quarters of buildings in Germany were built before 1980, making the renovation of existing stock key to meeting energy efficiency targets.

How have you influenced, or are you attempting to influence their position?

The Divisional Director of BAMs operating company Wayss & Freytag, holds the Chairman position of the Environmental Committee of the HDB.

Trade association

NABU

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

BAM is a member of NABU (Netherlands Association of International Contractors) and is leading the new CSR committee. NABU is an open and legally independent association which represents the collective interests of Dutch contractors operating abroad. Its members are engaged in every aspect of building, civil engineering, (maritime) infrastructure and dredging. NABU focuses on establishing favourable conditions and promoting the construction industry's image. In doing so, NABU engages in regular consultation with the authorities and closely related institutions, both on a national and an international level, as well as with other trade organisations.

How have you influenced, or are you attempting to influence their position?

NABU is actively engaged with the environmental and social appreciation of its members' international activities. Members of NABU must comply with (international) laws and regulations. But sustainable development is for them more than a 'must': it appeals to their social responsibility, which goes hand in hand with demonstrating BAM as a reputable global industry partner. Due to its NABU membership, BAM contributes actively to the development of acceptable norms for corporate social responsibility for use in the international construction market. BAM has led efforts to translate the Sustainable Development Goals for NABU's construction members and also for the

European International Contractors Federation (EIC), including efforts around climate change.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

BAM updated its Code of Conduct in 2019 and Sustainability is included as integral topic in the Code. A training on the Code of Conduct is mandatory for all new employees and after the 2019 update all existing employees also had to renew their Code of Conduct training. By the end of 2020, more than 91% of BAMs employees successfully finished the Code of Conduct training. BAM has also internally published a Sustainability policy, where BAM's strategy, ambitions and objectives are outlined. This policy is available for all employees and provides guidelines of the position of BAM on different sustainability topics, including climate change strategy.

Processes to ensure activities that influence policy are consistent with our overall climate change strategy:

BAM's sustainability policy, strategy and agenda are developed by BAM's Corporate strategy department (the sustainability department is in fact part of the strategy department) and the Executive Board. Climate change is an explicit part of the Group's sustainability strategy. Within the Executive Board an ambassador is appointed for BAM's sustainability (including climate change) strategy, which is communicated throughout the company and to all senior staff members. These senior staff members are involved with policy engagement and match their activities to the overall collective strategy, including the sustainability strategy/policy. BAM's Sustainability Department is involved in developing and communicating the strategy and agenda and aligning stakeholder engagement initiatives to the overall collective strategy. This is done through quarterly meetings with the Executive Board. During these meetings, topics typically discussed are BAM's performance on sustainability targets (CO2 emission and waste reduction) and market/policy developments. As a global organization, BAM sits on various internal and external committees to influence policies. All commitments and involvement are discussed and agreed in cooperation with the Sustainability Department and the broader 'Community' members (across all Operating Companies). Where relevant, senior management also endorse or champion BAM's involvement. All involvement concerning influencing policy is aligned and coordinated with BAM's strategy (including climate change action) and carefully managed through BAM's Communication department where necessary.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

 bam-2020.pdf

Page/Section reference

Governance: chapter 5 in Integrated Report 2020 (pages 52-61)

Strategy: chapter 2 in Integrated Report 2020 (pages 8-14).

Emissions figures and Emission targets: chapter 3.3 in Integrated Report 2020 (pages 36-41).

Content elements

Governance

Strategy

Emissions figures

Emission targets

Comment

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Executive Officer (CEO)	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

BAM Nuttall (our civil engineering operating company in the UK) was requested to fill out this questionnaire by one of their clients: SSE. As BAM participates to CDP (and other sustainability benchmarks) at company level (Royal BAM Group NV), BAM opted to include the supply chain module requested in the main CDP climate questionnaire. The requested data however is specifically tailored for SSE projects, and is provided by BAM Nuttall.

BAM Construct UK provides design and construction services to the NHS for new and refurbishment construction projects. The number of projects we operate for NHS varies from year to year. We track carbon emissions across all of our projects, including all health (and NHS) projects, including our subcontractors use of fuel on our sites. Transport impacts are measured separately but can be attributed to each specific project. It should be noted that for the majority of our NHW projects, energy for use on a construction or refurbishment site is supplied by our client i.e. local health trust. This is however measured regardless and included in emissions data.

BAM Construct UK has a long-standing commitment to combat climate change and reduce the business's direct and indirect carbon emissions. We have been measuring, managing and reducing carbon emissions from our operations since 2008. We surpassed our 2020 target to reduce emissions by 25% compared to 2015, achieving a 45% reduction. Our total carbon footprint now stands at just 6,121 tCO₂e (market based). At project level, where we also capture subcontractor emissions, our average impact has reduced by 60% since 2015, from 15.8 tCO₂e/£m project value to 6.2 tCO₂e/£m project value in 2020.

Our ultimate goal is to have a net positive impact on climate resources and people by 2050, by working with our clients and supply chain to reduce their carbon emissions, protect and preserve natural resources and creating value for people we come into contact with.

BAM were one of the first contractors to have an approved science-based target (set at Royal BAM Group level) to reduce our global emissions by 50% by 2030. At BAM Construct UK, we have made a further commitment to become net zero carbon by no later than 2030. In 2021 we were awarded one of the first Platinum awards by CEMARS, the international carbon reduction standard, having reduced our emissions consistently for over 10 years, taking more than 20,000 tCO₂e out of our business. We are one of the first contractors to sign the world green building council net zero carbon buildings commitment, meaning we will only occupy and develop net zero carbon buildings by 2030. We are also a founding partner of the UK Green Building Council (UKGBC) Net Zero Carbon Buildings Program, which is now being adopted by a wide range of private and public sector clients, including the NHS.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	6,817,168,059

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	NL	0000337319

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

NHS England and NHS Improvement

Scope of emissions

Scope 1

Allocation level

Facility

Allocation level detail

Emissions are from each NHS project being delivered (onsite) during 2020 calendar year. Data collected at project level and aggregated.

Emissions in metric tonnes of CO₂e

82.5

Uncertainty (±%)

0

Major sources of emissions

Emissions include all electricity used on site (BAM procured and client supplied), Gas Oil used by BAM and by subcontractors on site, BAM staff miles driven to and from site (cars), electricity T&D losses.

Verified

Yes

Allocation method

Allocation not necessary due to type of primary data available

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

GHG sources represent the main direct and indirect emissions associated with the construction site operations.

Requesting member

NHS England and NHS Improvement

Scope of emissions

Scope 2

Allocation level

Facility

Allocation level detail

Emissions are from each NHS project being delivered (onsite) during 2020 calendar year. Data collected at project level and aggregated.

Emissions in metric tonnes of CO₂e

56.3

Uncertainty (±%)

0

Major sources of emissions

Emissions include all electricity used on site (BAM procured and client supplied), Gas Oil used by BAM and by subcontractors on site, BAM staff miles driven to and from site (cars), electricity T&D losses.

Verified

Yes

Allocation method

Allocation not necessary due to type of primary data available

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

GHG sources represent the main direct and indirect emissions associated with the construction site operations.

Requesting member

NHS England and NHS Improvement

Scope of emissions

Scope 3

Allocation level

Facility

Allocation level detail

Emissions are from each NHS project being delivered (onsite) during 2020 calendar year. Data collected at project level and aggregated.

Emissions in metric tonnes of CO₂e

83.2

Uncertainty (±%)

0

Major sources of emissions

Emissions include all electricity used on site (BAM procured and client supplied), Gas Oil used by BAM and by subcontractors on site, BAM staff miles driven to and from site (cars), electricity T&D losses.

Verified

Yes

Allocation method

Allocation not necessary due to type of primary data available

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

GHG sources represent the main direct and indirect emissions associated with the construction site operations.

Requesting member

SSE

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

BAM Nuttall

Emissions in metric tonnes of CO₂e

2,690.3

Uncertainty (±%)

2

Major sources of emissions

Our fuel use, electricity use and business travel on SSE projects were:

Liquid fuel consumption = 954,437L

Business travel = 489,373 km

Electricity consumption 96,616kWh

Verified

Yes

Allocation method

Allocation not necessary due to type of primary data available

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

In order to calculate energy consumption and CO₂ footprint, group companies are required to report consumption of fuel, electricity, etc. When calculating energy consumption [GJ] or carbon footprint [tonnes CO₂], activity data is multiplied by a default or custom conversion factor. Operating companies are required to collect activity data. Activity data are defined as the amount of consumed fuels for execution of its operations, such as the combusted litres of diesel or used kWh. Data is sourced from the supplier via transaction reports.

Requesting member

SSE

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

BAM Nuttall

Emissions in metric tonnes of CO2e

23

Uncertainty (±%)

20

Major sources of emissions

Our fuel use, electricity use and business travel on SSE projects were:

Liquid fuel consumption = 954,437L

Business travel = 489,373 km

Electricity consumption 96,616kWh

Verified

Yes

Allocation method

Allocation not necessary due to type of primary data available

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

In order to calculate energy consumption and CO2 footprint, group companies are required to report consumption of fuel, electricity, etc. When calculating energy consumption [GJ] or carbon footprint [tonnes CO2], activity data is multiplied by a default or custom conversion factor. Operating companies are required to collect activity data. Activity data are defined as the amount of consumed fuels for execution of its operations, such as the combusted litres of diesel or used KWh. Data is sourced from the supplier via transaction reports.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

We publish our annual GHG emissions but not specifically related to NHS projects. You can find details of our carbon emissions in our annual report (https://www.bam.co.uk/docs/default-source/report-accounts/bam-construct-uk---report-accounts-2020-lr.pdf?sfvrsn=bc4829c2_8) and of our certification through CEMARS (<https://www.toitu.co.nz/our-members/members/bam-group>).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to	BAM is mature in their ability to allocate their scope 1 and 2 emissions to different customers, as energy use is being monitored at project level.

<p>accurately track emissions to the customer level</p>	<p>Our use of (construction) materials is in our scope 3, and BAM's currently working on getting more insight in scope 3 emissions. For the construction sector we have defined purchased goods & services and use of sold products to be the main hotspots. Our challenge is to develop an efficient and reliable methodology to capture emissions related to the use of construction materials. So far, our insight in in scope 3 is limited.</p> <p>BAM is beginning to collect the material use at project level for specific clients (so that they can calculate upstream emissions themselves). It is intended that a full scope 3 emissions report will be provided in the coming years to contain material use, transport, waste and business travel.</p>
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SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

As described, we can already allocate specific emissions to NHS and future changes would only relate to adding further emissions sources i.e. embodied carbon of projects as this is measured in line with NHS net zero strategy and framework requirements.

BAM Nuttall has developed its scope 3 emissions reporting and it is now possible to derive a customer specific carbon footprint based on a projects use of materials and resources used. This reporting capability enables BAM to have more maturity around its outline carbon assessments which are undertaken in most tenders presently – particularly in the civil infrastructure division where most schemes are funded by governments. We continue to seek whole life carbon reductions by engaging with our customers pre-design stage so we can offer the best and lowest possible carbon solutions.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member

NHS England and NHS Improvement

Group type of project

Other, please specify
Multiple types

Type of project

Other, please specify
Multiple types

Emissions targeted

Actions to reduce customers' operational emissions (customer scope 1 & 2)

Estimated timeframe for carbon reductions to be realized

Other, please specify
Dependant on construction and refurbishment projects we are selected to bid and deliver.

Estimated lifetime CO2e savings

0

Estimated payback

Other, please specify
Dependant on specific building projects being delivered.

Details of proposal

We are on track to reduce our organisational emissions to zero. For NHS projects, we will already use low carbon fuels and 100% renewable electricity. We see opportunities to work with NHS to minimise and reduce energy consumption of the existing estate and energy and carbon emissions from new buildings being procured. We can work with NHS to assess energy saving opportunities (e.g. via our BAM Energy esco services) and to take a design for performance approach for new projects. We can also assess and minimise embodied carbon (through performing LCA) of projects, utilising more efficient designs with lower carbon materials.

Requesting member

SSE

Group type of project

Change to supplier operations

Type of project

Implementation of energy reduction projects

Emissions targeted

Actions to reduce customers' operational emissions (customer scope 1 & 2)

Estimated timeframe for carbon reductions to be realized

1-3 years

Estimated lifetime CO2e savings

20

Estimated payback

0-1 year

Details of proposal

Following the Energy Study carried out in 2017, the awareness campaign was commenced and is estimated to have saved 10% of the fuel consumption at Melgarve. No other initiatives were acted on.

Requesting member

SSE

Group type of project

Reduce Logistics Emissions

Type of project

Consolidated logistics

Emissions targeted

Actions to reduce customers' operational emissions (customer scope 1 & 2)

Estimated timeframe for carbon reductions to be realized

0-1 year

Estimated lifetime CO2e savings

1

Estimated payback

0-1 year

Details of proposal

BAM implemented a central base camp on ca. 1 hour drive from Melgarve Substation project, and uses shuttle vehicle to transport employees and visitors from camp to project.

Requesting member

SSE

Group type of project

Change to supplier operations

Type of project

Implementation of energy reduction projects

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

0-1 year

Estimated lifetime CO2e savings

10

Estimated payback

0-1 year

Details of proposal

Offsite pre-cast concrete bases to reduce production emissions.

Requesting member

SSE

Group type of project

Change to supplier operations

Type of project

Implementation of energy reduction projects

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

0-1 year

Estimated lifetime CO2e savings

25

Estimated payback

0-1 year

Details of proposal

Use of Hybrid excavators to reduce fuel use

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain questions?
I am submitting my response	Investors Customers	Public	Yes, I will submit the Supply Chain questions now

Please confirm below

I have read and accept the applicable Terms