BAE Systems - Water Security 2023

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

At BAE Systems plc (“BAE Systems” or “the Group”), our advanced defence technology protects people and national security, and keeps critical information and infrastructure secure. We search for new ways to provide our customers with a competitive edge across the air, maritime, land and cyber domains.

We employ a skilled workforce of 93,100 people in around 40 countries and work closely with local partners to support economic development by transferring knowledge, skills, and technology. We are the largest defence contractor in both the UK and Australia, and a top ten defence prime contractor in the US and the number one in-country defence supplier in Saudi Arabia. The Group has a strong international presence with well-established relationships across the globe, supported by regional sales offices. 16,900 employees work within the Electronic Systems reporting segment; 12,200 within Platforms and Services; 24,400 in Air; 24,200 in Maritime, 10,500 in Cyber and Intelligence, 4,900 in HQ/other.

In 2022 BAE Systems reported sales of £23,256 million across its six principal reporting segments of Air; Maritime; Electronic Systems; Platforms and Services, Cyber and Intelligence, and HQ/other. As of 31 December 2022 the Group had a strong order backlog of £58.9 billion.

In 2022, our total water withdrawal (Mains and Abstracted) was 6,929,821 cubic meters cubic meters and 763,584 cubic meters was recycled. However, with the exception of this high-level data on water withdrawal, we currently collect limited data on water discharges and consumption. For 2022, after excluding our US sites within our business operations, we were able to collect specific water withdrawal, discharge, and consumption data from our UK and Rest of World (ROW) sites representing 78% of global water withdrawal. This includes seven sites in the UK and four sites in the Kingdom of Saudi Arabia (Saudi Arabia). References to our organisation are references to our global footprint as a company, references to the eleven sites, are references to the eleven sites in scope for this year’s response, with the exclusions stated in W0.6. In addition to the above, information from the US (INC) sites was collected and considered for questions W1.1, W3.1 and W10.1 and have been included in this year's response. The reliability of the reported information and data is subject to inherent uncertainties given the available methods for determining, calculating or estimating water related data and related calculations. The reporting boundary for water data (January 2022 - December 2022) and the Annual Report (November 2022 - October 2022) in 2022 are different.

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2022	December 31 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

Australia
Bahrain
Brazil
Canada
China
Czechia
Egypt
Finland
France
Germany
Greece
India
Indonesia
Iraq
Isle of Man
Japan
Kuwait
Malaysia
Netherlands
Norway
Oman
Poland
Qatar
Republic of Korea
Saudi Arabia
Singapore
Slovakia
South Africa
Spain
Sweden
Thailand
Turkey
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United States of America

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

GBP

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Specific water withdrawal, discharge, and consumption data from our US sites.	We are unable to collect specific water withdrawal, discharge, and consumption data from our US sites at this time. Information from three US (INC) sites was collected and considered for questions W1.1, W3.1 and W10.1 and have been included in this year's response. Answers to all of the following questions (excluding those aforementioned) do not include US data and refer to the 11 consuming sites from the UK and ROW, which are the most material sites for water use, including seven sites in the UK and four sites in Saudi Arabia.
Two percent of our UK and ROW water withdrawal (Mains and Abstracted).	In 2022, for our UK and ROW sites, our total water withdrawal (Mains and Abstracted) was 6,929,821 cubic meters and 763,584 cubic meters was recycled. However, with the exception of this high-level data on water withdrawal, we currently collect limited data on water discharges and consumption. For 2022, we were able to collect specific water withdrawal, discharge, and consumption data from our UK and ROW sites representing approximately 78% of water withdrawal from the UK and ROW including from seven sites in the UK and four sites in Saudi Arabia. These 11 sites are responsible for almost 100% of recycled water. The excluded 2% of our UK and ROW water withdrawal (Mains and Abstracted) is not material.
Data relating to pension scheme properties not occupied by the group and joint venture properties have not been included.	We currently do not collect any water data for pension scheme properties not occupied by the group and joint venture properties.

W0.7

(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, an ISIN code	GB0002634946
Yes, a Ticker symbol	BAESY - BAE Systems plc ADRs
Yes, a Ticker symbol	BA - on London Stock Exchange
Yes, an ISIN code	US05523R1077
Yes, a CUSIP number	05523R107
Yes, a SEDOL code	0263494

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	Our primary uses of water include withdrawals for use in direct operations such as boat build activities, demineralised water used in nuclear reactors, water for boiler houses, water blasting ship hulls, drinking water, surface treatment processes, industrial and production process water, and indirect operations such as residential compound support for employees and dependents. The majority of our sites considered Direct use as Vital, due to the need for high-quality water in our industrial and production processes and for employee hygiene, to reduce corrosion, increase energy efficiency, and prevent safety incidents. Therefore we have selected Vital for Direct use rating. For the Indirect use, the majority of our sites consider it as either Vital or Important, due to high quality water needed in our value chain and residential compounds, therefore, for Indirect use we have selected a rating of Important. Future water dependency will not differ in both direct and indirect operations, because we do not currently foresee any significant changes to our organisational boundary or the locations in which we operate. We do not foresee any significant changes to our market; however, we continually review changes in technology to reduce water consumption where possible.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Vital	Our primary uses of recycled and brackish water in direct operations include seawater used for cooling plants and reactors and recycled water used for fire suppressant/other grey water, effluent treatment to remove hazardous waste, and make-up water for production. Our primary uses of Indirect recycled and brackish water is use in sewage treatment plants. For both Direct and Indirect use most of our sites considered it to be Vital or Important due to its use in cooling plants/reactors, boiler make-up, ship building processes, fire suppressant, therefore we have selected Vital as our rating for both Direct use and Indirect use. Some of our sites have rated this to be Not important because they do not utilize water from this source in their operations. Future water dependency will not differ in both direct and indirect operations, because we do not currently foresee any significant changes to our organisational boundary or the locations in which we operate. We also do not foresee any significant changes to our market, however, we continually review changes in technology to reduce water consumption where possible. Of the Inc. sites for which information was collected, our primary uses of recycled and/or produced water include steam condensate re-routed back for boiler use, which saves on water and chemical use, in addition to fire main system use of water withdrawn from a river to be available for fire suppression if needed, and water wells that provide drinking water for use on-board ships and at the facility.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	76-99	Daily	Site manual meter readings, site level water meters, seawater pump running hours, or from invoices/billing	All of our top sites from the UK and ROW, monitor water withdrawals, except for rain water harvesting, on an ongoing basis using site level water meters, seawater pump running hours, or from invoices/billing. The percentages stated relate to the 11 sites.

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – volumes by source	76-99	Daily	Site manual meter readings, site level water meters, seawater pump running hours, from invoices/billing	All of our top sites from the UK and ROW, monitor water withdrawals total volumes by source, on an ongoing basis using site level water meters, seawater pump running hours, from invoices/billing or supplier network online portal. The percentages stated relate to the 11 sites.
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Water withdrawals quality	26-50	Daily	Supplier portals are used to analyse water quality or in some cases the contractor tests the water	Eight of the 11 sites from the UK and ROW, monitor water withdrawals quality from the source and some monitor it after treatment. Monitoring is completed on an ongoing basis using supplier portal water analysis. Our management systems include monitoring and measurement requirements relevant to the site's operations. The percentages stated relate to the 11 sites within the top 30 only.
Water discharges – total volumes	1-25	Daily	Site manual meter readings, flow measurement records, invoices/billing .	Six of the 11 sites from the UK and ROW, monitor water discharges total volumes for billing or regulatory purposes on an ongoing basis using site level water meters, flow measurement records or from invoices/billing. Five of the sites do not discharge water as it is treated and then used , therefore no monitoring is required. Some of the monitoring across the sites includes trade effluents monitoring, discharges from water abstraction for cooling, discharges from all residential compound locations with offices under company control. This is in line with the requirements of site environmental management systems. The percentages stated relate to the 11 sites.
Water discharges – volumes by destination	1-25	Daily	Site manual meter readings, flow measurement records, invoices/billing .	Six of the 11 sites from the UK and ROW, monitor water discharges volumes by destination for billing or regulatory purposes on an ongoing basis using site level water meters or from invoices/billing. Five of the sites do not discharge water as it is treated and then used, therefore no monitoring is required. The water discharges go to different destinations such as waste treatment works and package sewage treatment plants. This is in line with site environmental management systems, which require sites to identify legal requirements associated with monitoring water discharge and implement them through monitoring and measurements plans. The percentages stated relate to the 11 sites.
Water discharges – volumes by treatment method	1-25	Daily	Site manual meter readings, flow measurement records, invoices/billing .	Five of the 11 sites from the UK and ROW, monitor water discharges volumes by treatment method for billing or regulatory purposes on an ongoing basis using site level water meters or from invoices/billing. Five of the sites do not discharge water as it is treated and then used, therefore no monitoring is required. This is in line with site environmental management systems, which require sites to identify legal requirements associated with monitoring water discharge and implement them through monitoring and measurements plans. The percentages stated relate to the 11 sites within the top 30 only.
Water discharge quality – by standard effluent parameters	76-99	Daily	Composite sampling of parameters such as the total amount of dissolved solids, pH metre	Nine of 11 sites monitor this for billing or regulatory purposes using sampling. This is in-line with site environmental management systems, which require sites to identify legal requirements associated with monitoring discharge and implement them through monitoring and measurements plans. E.g. Final effluent which leaves one site into the local sewer is sampled by a composite sample which is taken over a 24-hour period. The sewage undertaker tests a monthly composite and a monthly spot sample. These are analysed for a variety of parameters to assess compliance with discharge limits. Additionally, all discharges from onsite water treatment facilities are sampled weekly by onsite laboratories. The site with the largest consumption of water has the majority of its effluent water sampled. The quality and the total amount of dissolved solids within irrigation water is monitored through the maintenance contractor operating processes. The percentages stated relate to nine of the 11 sites
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	51-75	Other, please specify (Bi-annually)	Analytical testing is conducted, atomic absorption test	Three of the 11 sites from the UK and ROW, monitor emissions to water from discharged water for regulatory purposes on an ongoing basis by conducting specific analytical tests. This is in line with site environmental management systems, which require sites to identify legal requirements associated with monitoring water discharge and implement them through monitoring and measurements plans. Five of the sites do not discharge water as it is treated and then used, therefore no monitoring is required. For example, Analytical testing is conducted by RES - Analysis for explosives from both Boreholes and Surface water points. All UKAS/MCERTS accredited methodologies are used to assess the emissions to discharged water.
Water discharge quality – temperature	1-25	Daily	Thermometer	Some of our top sites from the UK and ROW, monitor water discharge quality – temperature for regulatory purposes on an ongoing basis using meters. Five of the sites do not discharge water as it is treated and then used, therefore no monitoring is required. This is in line with site environmental management systems, which require sites to identify legal requirements associated with monitoring water discharge and implement them through monitoring and measurements plans. For example, in one case seawater cooling and trade effluents from heated sources are monitored for temperature as per that site's standard operating procedure. The percentages stated relate to the 11 sites.
Water consumption – total volume	76-99	Daily	Site manual meter readings, flow metres	Most of our top sites from the UK and ROW, monitor water consumption – total volume on an ongoing basis by calculating withdrawals minus discharges. However, volumes of total effluent discharged is not always known due to rainwater ingress on the sites or from losses through evaporation and so the exact total consumption is not calculable. The percentages stated relate to the 11 sites.
Water recycled/reused	100%	Daily	Flow metres	Some of our top sites from the UK and ROW, monitor water recycled/reused on an ongoing basis by estimating use in processes. This is in line with site environmental management systems, which require sites to identify legal requirements associated with monitoring recycled water and implement them through monitoring and measurements plans. For example, at some of our sites irrigation water is recycled water and the flow is monitored. Waste water is treated and recycled into the sewage treatment plan and re-used for irrigation to water the gardens within the compound. The percentages stated relate to the 11 sites.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Daily	Water testing, process to log faults or concerns with facilities	All of the 11 sites from the UK and ROW, monitor services for workers and WASH services which are important for the continuation of operations on an ongoing basis. Welfare facilities are audited by the site Facilities and Safety Teams. The percentages stated relate to the top 11 sites only.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	5415	Much lower	Increase/decrease in business activity	About the same	Increase/decrease in business activity	The reporting boundary for 2023 includes some different sites compared with 2022. However, the reporting boundary still contains the top sites in terms of water consumption. For 11 of our top 30 sites, most of them from the UK and ROW, the total water withdrawals remained about the same compared with last year which is attributed to minor variances associated with business activities. However, overall water withdrawals decreased significantly compared to 2021 due to the three-yearly fluctuations in production/ operational activities at one of our UK sites. For example, a reduction in activities requiring brackish water withdrawals associated with the boat build programme and SMITE testing /commissioning activities. In addition, repairs and replacement of firewater pipework and other distribution network replacement/repairs has reduced leaks. In the future, we expect withdrawals to remain about the same as the occupancy levels of the compounds are expected to remain unchanged and business activities are expected to stay the same. Future total discharge volumes will fluctuate alongside production levels.
Total discharges	3888	Much lower	Increase/decrease in business activity	About the same	Increase/decrease in business activity	The reporting boundary for 2023 includes some different sites compared with 2022. However, the reporting boundary still contains the top sites in terms of water consumption. For most of the 11 sites from the UK and ROW, the total water discharges reduced compared with last year. There was a decrease in discharges from one site due to a reduction in water discharge activities associated with the boat build programme and SMITE testing /commissioning activities. In the future, we expect discharges to remain about the same as the occupancy levels of the compounds are expected to remain unchanged and business activities are expected to stay the same. Future total discharge volumes will fluctuate alongside production levels. Some of our sites do not monitor the quantity of their discharge and therefore this should be taken as an estimate.
Total consumption	1527	About the same	Increase/decrease in business activity	About the same	Increase/decrease in business activity	The reporting boundary for 2023 includes some different sites compared with 2022. However, the reporting boundary still contains the top sites in terms of water consumption. The totals from each site are compared with their consumption from the previous year and not compared to the numbers reported within last years' CPD response. The consumption total is a calculation based on water withdrawals minus the discharge. Some of our sites do not monitor the quantity of discharge from their foul sewerage system (which may also fluctuate due to rain water ingress) and so the total water balance should be taken as an estimate. Future total consumption volumes will fluctuate alongside production levels, although businesses have local level initiatives, like leak detection and pipe repairs to reduce consumption. We will continue to monitor consumption levels across our sites.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	26-50	Lower	Increase/decrease in business activity	About the same	Increase/decrease in business activity	Please select	We assess areas with water stress as those with low water security and availability with a local context. The majority of our sites that withdraw a significant volume of water from areas with low water security and low availability are located in Saudi Arabia. The total volume of withdrawal from Saudi Arabia is 1490 megalitres which is 27% of the total volume within the reporting boundaries for company-wide withdrawals. Water withdrawals from areas with water stress in the future are expected to fluctuate year to year based on normal increases/decreases in business operations but the average is expected to stay about the same. We have introduced sensor taps, reducing water flow, adding dry landscaping to avoid the need for landscaping water and comparing consumption month on month to see a reduction in overall consumption.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	950	Lower	Increase/decrease in business activity	This relates to 1 of the 11 sites. Their withdrawal from fresh water is lower than the previous year due to their firewater pipework undergoing replacement and repairs.
Brackish surface water/Seawater	Relevant	2295	Much lower	Increase/decrease in business activity	This relates to 1 of the 11 sites. The figure reported is lower than the previous year due to a reduction in abstracted brackish water usage from our boat build programme in carrying out SMITE testing and commissioning activities.
Groundwater – renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	BAE Systems does not withdraw water from Groundwater-Renewable Sources and therefore this is not relevant.
Groundwater – non-renewable	Relevant	1045	About the same	Increase/decrease in business activity	For the two sites that this figure relates to, they have reported withdrawal figures about the same as their reporting period last year as operations continue.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	BAE Systems does not withdraw water from produced/entrained water and therefore this is not relevant.
Third party sources	Relevant	1124	About the same	Increase/decrease in business activity	This relates to 9 of the 11 sites. There has been overall minimal change as compared to previous year.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	BAE Systems does not discharge to fresh surface water and therefore this is not relevant.
Brackish surface water/seawater	Relevant	3041	Much lower	Increase/decrease in business activity	This is only relevant for one of our top 11 sites. T here was lower discharge in 2022 due to a decrease in volume of seawater required for production compared to 2020 due to three-yearly fluctuations in production/operational activities at one of our UK locations associated with boat build programme activities. The abstracted water is discharged back into the location of abstraction and therefore the discharge total is estimated to be the same as the total abstracted water.
Groundwater	Relevant	339	About the same	Increase/decrease in business activity	This is only relevant for two of the 11 sites. There has been overall minimal change as compared to previous year.
Third-party destinations	Relevant	488	Lower	Increase/decrease in business activity	Our discharge decreased from 2021 due to lower withdrawal which was due to a reduction in business activity. Discharge to third party sources is partly estimated as not all of our sites monitor discharge of foul sewerage to municipal sewerage pipes.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant	36.8	About the same	Increase/decrease in business activity	Less than 1%	36.8 is an estimate from multiple sites. We have several effluent treatment plants which undertake tertiary treatment of effluents generated from surface treatment processes. At the tertiary level this primarily focuses upon heavy metal removal, pH adjustment and flocculation treatment. Standards are set by local legislation for example in the UK, processes follow the Water Industries Act.
Secondary treatment	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	BAE Systems use secondary treatment however this isn't metred at all sites so we can't give the associated total volumes. Secondary treatment is relevant to three of our top UK sites and none of our sites in ROW. At the UK site we send water to secondary treatment on site. Volumes of treated effluent which are discharged to the local estuary are not metred. In Saudi Arabia, all sewage is captured and treated on site with aeration tanks and sludge removal. In addition, there is a dewatering plant where sludge is removed via a polymer – wastewater from the process is recycled which goes into landscaping. 100% of wastewater goes back into waste system and then percolates into the ground after full treatment.
Primary treatment only	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	BAE Systems use primary treatment however this isn't metred at all sites so we can't give the associated total volumes. Primary is relevant to two of our top consuming UK sites and none of our sites in ROW.
Discharge to the natural environment without treatment	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Monitoring is not required in relation to the permit for settled storm water. One of our sites withdraws water from the channel to fill up the dock and then discharges the water back into the channel therefore (volume known), water treatment is not required. The volume is known for this site however a combined total for the two sites this is relevant to is unknown.
Discharge to a third party without treatment	Relevant	238	Much higher	Facility expansion	21-30	% of your sites/facilities/operations this volume applies to: 1- 25%. Activities under the trade effluent consent discharge to sewer without prior treatment Expansion across site could increase discharges. One of our sites in the UK, directly discharge site effluent which is untreated to the sewage undertakers treatment works.
Other	Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	

W1.2k

(W1.2k) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	List the specific substances included	Please explain
Row 1		Please select	<Not Applicable>	Three of the 11 sites from the UK and ROW, monitor emissions to water from discharged water for regulatory purposes on an ongoing basis by conducting specific analytical tests. This is in line with site environmental management systems, which require sites to identify legal requirements associated with monitoring water discharge and implement them through monitoring and measurements plans. For example, analytical testing is conducted by RES - Analysis for explosives from both Boreholes and Surface water points. All UKAS/MCERTS accredited methodologies are used to assess the emissions to discharged water.

W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	21258000000	5415	3925761.77285319	As revenue increases we will review our ongoing programmes, including the need for additional efficiency measures. This relates to our global organisation's water withdrawals.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	Yes	<Not Applicable>

W1.4a

(W1.4a) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Other, please specify (EU REACH and others)	Don't know	The products that are manufactured at our UK sites contain hazardous substances as defined by the UK regulations such as EU REACH. We track substances defined as hazardous by the appropriate regulatory bodies, through our Product Environmental teams and they are managed according to legislation. However, due to the nature of our business and the products that we manufacture we are unable to provide more detail at this time.

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	No	We are planning to do so within the next two years	We currently include water stewardship and risk management in our supplier selection mechanism and assess our suppliers against climate related issues (which applies to 100% of suppliers) but not explicitly water issues. In 2022 we appointed a group director (Group ESG, Culture & Business Transformation Director,) for ESG issues and we recognise that going forwards, we need to review our strategic approach to water. We currently evaluate our critical suppliers for our BCM (Business Continuity Management) - this could highlight flooding risks / or other environmental risks but this is not part of engagement with the suppliers. We also use Dow Jones systems to track due diligence issues in the supply chain. The System alerts the company to events such as environmental prosecutions, which would cover water. This is conducted as part of the initial supplier approval process but is then ongoing and success has not been measured yet.
Other value chain partners (e.g., customers)	No	We are planning to do so within the next two years	We currently include water stewardship and risk management in our supplier selection mechanism and assess our suppliers against climate related issues (which applies to 100% of suppliers) but not explicitly water issues. In 2022 we appointed a group director (Group ESG, Culture & Business Transformation Director,) for ESG issues and we recognise that going forwards, we need to review our strategic approach to water. We currently evaluate our critical suppliers for our BCM (Business Continuity Management) - this could highlight flooding risks / or other environmental risks but this is not part of engagement with the suppliers. We also use Dow Jones systems to track due diligence issues in the supply chain. The System alerts the company to events such as environmental prosecutions, which would cover water. This is conducted as part of the initial supplier approval process but is

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	No	<Not Applicable>	

W3. Procedures

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	All sites operate an EMS, requiring the identification of substances with potential to cause harm, e.g. water pollutants. Risk assessments are used to evaluate substances. In the UK, risks associated with substances are categorized through COSHH legislation. COSHH assessments protects workers' health, & helps identify substances with environmental risks. Hazard assessments give insight on the hazards posed by substances, including the impact on aquatic life. Controls are applied to eliminate/minimize the risk of pollution. A site conducts Water Quality Impact appraisals to assess if the site can cause a Major Accident to the surface water quality environment (MATTE). Under COMAH, substances are identified by their potential to cause major accidents & the associated risks. This includes reviewing threshold quantities, hazardous properties & safety data sheets. Of the Inc. sites for which information was collected, some of the sites have wastewater permits from state or municipal agencies with numerical limits on certain pollutants, as well as monitoring and reporting requirements for others. We continually track pending changes on proposed regulations to ensure compliance. Some sites also have storm water permits that require identification of potential pollutants that could be transferred off-site through contact with materials stored outside. Storm water permits require sampling and visual monitoring for pollutants and Best Management Practices for pollution prevention.	<Not Applicable>

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

Inorganic pollutants include heavy metals. These are water pollutants that have been identified on some sites. Inorganic pollutants include those classified as Hazardous to the environment under the European Chemicals Agency (ECHA) classification.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Resource recovery
Implementation of integrated solid waste management systems
Reduction or phase out of hazardous substances
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods

Please explain

Some sites conduct an aspects and impacts assessment that identifies the potential for environmental incidents and the relevant control measures. Control measures for sites include all production areas being bunded including the use of Intermediate Bulk containers (IBCs) to prevent spill contamination and leakage from storage tanks. Additionally, regular equipment maintenance occurs and staff are trained in relevant impacts. Interceptor valves are present on-site which stop potential contaminants entering the sewerage system.
Of the Inc. sites for which information was collected, we follow the regulatory requirements for integrity testing of storage tanks and infrastructure. We track and report as required by our wastewater permits which includes periodic testing. Storm water permits require sampling and visual monitoring for pollutants and Best Management Practices for pollution prevention.

Water pollutant category

Oil

Description of water pollutant and potential impacts

Oils used on sites include fuels and coolants. Oils and fuels are used throughout manufacturing processes. Any of these have the potential to be water pollutants. Potential impacts of this include the accidental discharge of the oils and fuels to the foul sewerage system, or to surface waters. At a UK site, assessments are a commitment under Control of Major hazards (COMAH) regulations 2015. Assessments should be conducted to ensure the site cannot cause a Major Accident To The Environment (MATTE).

Value chain stage
Direct operations
Product use phase

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Resource recovery
Implementation of integrated solid waste management systems
Water recycling

Please explain
Localised best practice controls will be implemented at sites based on task specific risk assessments. Some sites conduct an aspects and impacts assessment that identifies the potential for environmental incidents and the relevant control measures. Control measures for sites include all production areas being bunded including the use of Intermediate Bulk containers (IBCs) to prevent spill contamination and leakage from storage tanks. Spills plans and spill kits are also present across sites to reduce the impact of any spills that do occur. Additionally regular equipment maintenance occurs, and staff are trained in relevant impacts. Sites have emergency interceptor valves which stop potential contaminants entering the sewerage system. At a UK site, assessments are a commitment under Control of Major hazards (COMAH) regulations 2015. Assessments should be conducted to ensure the site cannot cause a Major Accident To The Environment (MATTE).
Of the Inc. sites for which information was collected, we have waste minimization and recycling programs in place, which include the reuse of used oils.

Water pollutant category
Nitrates

Description of water pollutant and potential impacts

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Other, please specify (Daily and monthly testing to ensure that permit consents are maintained)

Please explain
This is a commitment under Control of Major hazards (COMAH) regulations 2015. Assessments should be made to ensure the site cannot cause a Major Accident To The Environment (MATTE).

Water pollutant category
Other nutrients and oxygen demanding pollutants

Description of water pollutant and potential impacts

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Other, please specify (Daily and monthly testing to ensure that permit consents are maintained)

Please explain
This is a commitment under Control of Major hazards (COMAH) regulations 2015. Assessments should be made to ensure the site cannot cause a Major Accident To The Environment (MATTE).

Water pollutant category
Other synthetic organic compounds

Description of water pollutant and potential impacts

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Other, please specify (Bi-annual testing completed)

Please explain
This is a commitment under Control of Major hazards (COMAH) regulations 2015. Assessments should be made to ensure the site cannot cause a Major Accident To The Environment (MATTE).

Water pollutant category
Other physical pollutants

Description of water pollutant and potential impacts
Any oil, fuel or chemical used throughout the manufacturing process has the potential to be a water pollutant. Potential impacts include accidental discharge to the foul

sewerage network or surface waters.

Value chain stage
Direct operations
Product use phase

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Please explain
The assessment is a commitment under Control of Major hazards (COMAH) regulations 2015. Assessments should be made to ensure the site cannot cause a Major Accident To The Environment (MATTE). Additionally, spill plans and spill kits are also present to reduce the impact of any spills that do occur. Localised best practice controls will be implemented at sites based on task specific risk assessments.

Water pollutant category
Microplastics and plastic particles

Description of water pollutant and potential impacts

Value chain stage
Direct operations
Product use phase

Actions and procedures to minimize adverse impacts
Resource recovery
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods
Other, please specify (Provision of best practice instructions on product use)

Please explain
Localised best practice controls will be implemented at sites based on task specific risk assessments.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?
Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Value chain stage
Direct operations

Coverage
Full

Risk assessment procedure
Water risks are assessed in an environmental risk assessment

Frequency of assessment
Annually

How far into the future are risks considered?
More than 6 years

Type of tools and methods used
Tools on the market
Enterprise risk management
International methodologies and standards
Databases

Tools and methods used
Environmental Impact Assessment
Life Cycle Assessment
Other, please specify (Internal company methods)

Contextual issues considered
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered
Customers
Employees
Investors
Local communities
NGOs
Regulators
Suppliers
Water utilities at a local level

Comment
Our sites have environmental management systems in place that require environmental risk assessments to be undertaken in line with our Environment Policy. For some of the sites, ISO14001 requires each business to undertake environmental aspects assessments, identifying any significant risks. Understanding how the business may be impacted by its environmental factors is also a key component of mitigating emerging medium- and longer-term risk. Water scarcity is an example of an environmental factor that has the potential to impact our operations, for example, if a site extracts water for process use. Where we have a site with a high flood risk we have conducted flood specific surveys to establish risk improvement recommendations and the level of residual risk. Insurance industry best practice desktop physical risk assessment supported by flood specific risk engineering surveys were used where appropriate.

Value chain stage
Supply chain

Coverage
Partial

Risk assessment procedure
Water risks are assessed as part of an established enterprise risk management framework

Frequency of assessment
Every three years or more

How far into the future are risks considered?
More than 6 years

Type of tools and methods used
International methodologies and standards

Tools and methods used
IPCC Climate Change Projections
Other, please specify (Swiss Re CatNet & Stargate), International methodologies (IPCC climate change projections))

Contextual issues considered
Other, please specify (Business Continuity Management)

Stakeholders considered
Suppliers

Comment
Critical suppliers have been reviewed against potential environmental risk using the tools above including flood risk analysis and drought analysis and to determine future water scarcity and water quality.

W3.3b

(W3.3b) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	For identifying risk to our organisation, we use Environmental Impact Life Cycle Assessment, and internal company methods as the selected tools and methods. For Direct Operations, we use Swiss Re, CatNet and Stargate, to identify the likelihood of extreme weather events that could cause flooding, droughts etc. and also in the supply chain, to evaluate supplier locations. Water related risks are assessed as part of the broader environmental management system, with the tool providing an environmental impacts and aspect assessment to review operational impact. Assessments are reviewed between 1- and 3-years dependent on the risk level. Our businesses use aspects and impacts assessments that conform to the methodology set out in ISO 14001:2015 – this includes using a 5 by 5 matrix to establish environmental impact ratings and to determine significant environmental impacts. Insurer tools are used to understand the impact of flood risks on our facilities. These help us identify flood vulnerable areas on sites and the potential likelihood of an event occurring. We use this output to conduct a desktop analysis for each vulnerable site, identifying potential depths of water for different flood events and then calculate the likely damage. Where projected losses are significant we will commission a flood specific site survey. Any risk improvement recommendations will be worked through with the business. Flood loss estimates help us purchase the right level of insurance cover.	Where we have locations operating under legislation which deems certain activities require a permit from a regulator in order to prevent pollution, such as the Environmental Permitting (England and Wales) Regulations 2016, the regulator places requirements on the business to complete risk assessments using their assessment tool (H1). H1 considers the risks to air, water and land dependant on the process being undertaken. H1 modelling requires the permit holder to assess any hazardous chemicals or specific substances planned to be released to water, a screening test is conducted to determine if the pollutants are a risk to the environment. H1 utilises either actual or estimated data along with the discharge volume, background concentration and sewerage treatment reduction factors and compares the result against an environmental quality standard to ascertain if the discharge poses a risk to the environment. Through PARC (product assessment and reliability centre) assessments the Air Business Continuity team assesses several climate related risks such as flooding, wind speed and water supply. Responding to risk follows the BCM processes that have been identified for each site across numerous risks identified via the process above.	From a direct operational perspective, through our environmental aspect and impact assessment process, consultation is encouraged with several stakeholders that include customers, employees, local communities, NGO's, regulators, suppliers, investors, water utilities at a local level when assessments are undertaken. Critical suppliers BCM (Business Continuity Management) activity is reviewed and Dow Jones systems are used to track due diligence issues in the supply chain. This is conducted as part of the initial supplier approval process.	Any significant risks which could impact business reputation, business continuity or cost (e.g., major remediation), water regulatory frameworks, impact on ecosystems and habitats, access to fully functioning, safely managed WASH services for employees is escalated to the site risk register and or the Business Risk Register. Action plans are then put in place to improve, control, or monitor the aspect. A business management systems procedure is in place for the identification and assessment of environmental aspects and impacts include the identification of risks and opportunities.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, only within our direct operations

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

For the purposes of this report, we define substantive financial impact as an event which, if it occurred, would result in a loss to the company, and we define substantive strategic impact as an event which, if it occurred, will have a negative impact on the achievement of the objectives within the Group Strategic Framework and underpinning Integrated Business Plans (IBP). Our definition of substantive financial impact applies to our direct operations and supply chain. Substantive financial or strategic impact on our business is defined as an event, that may occur, that will have a negative impact on the achievement of the objectives within the Group Strategic Framework and underpinning Integrated Business Plans (IBP). These can be categorized as either Financial or Non-Financial Risks. Financial risks expose the Group to potential costs, which are quantifiable on the basis that their probability and impact can be understood adequately and related to the financial statements. Non-financial risks cannot be assessed readily in financial terms and, therefore, cannot be reflected reliably within the financial statements. Our overall risk management process is applicable to both financial and non- financial risks and is tailored to accommodate the differences in the management of these risks. Environmental risks, including water may feature as financial or non-financial risks depending on the extent to which their impacts can be quantified, and how they have been classified. The definition of Substantive impact is determined locally for each business and is typically based upon a financial impact level and a probability of occurrence. For example, it could be a £1M impact at a 20% probability of occurrence.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	1	1-25	Climate-related physical risks associated with operations in relation to extreme weather events, for example flood and drought.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

United Kingdom of Great Britain and Northern Ireland	Not known

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-10

Comment
For the eleven sites in scope for our response this year, a facility in the UK is prone to risks caused by river flooding, flash flood, and storm surge. The company has a risk engineering programme to mitigate the impact of potential losses and insurance provisions to protect its operations and revenue.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

United Kingdom of Great Britain and Northern Ireland	Other, please specify (We are not able to disclose the location due to the nature of our business.)

Type of risk & Primary risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
A facility in the UK is prone to risks caused by river flooding, flash flood, and storm surge. In case of such an event the impact can be substantial resulting in up to the closure of the site and at the least capital investment for recovery. Since 2022, significant mitigation has been implemented at the site with new drainage systems installed. We have now established the fluvial and storm surge risks are low.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-high

Likelihood
Unlikely

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1000000

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
The actual amount at risk will depend upon the nature of the event, the effectiveness of any mitigations, the facilities impacted and the extent of insurance cover in place.

Primary response to risk
Increase capital expenditure

Description of response
Further risk improvement recommendations would be identified, budgeted for and implemented.

Cost of response
350000

Explanation of cost of response
The cost of the response will depend on the nature of the risk improvement and the capital required to implement; this could be range from £0 - £350,000 as an estimate based on historic risk register improvement measures. But this estimate, which is not a committed spend can vary based on the complexity of the response and size of the site. For example, surveys are conducted at the site level and recommendations to flood defences, pumps etc., can then be costed and approved.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Evaluation in progress	Although water related risks are identified in our direct operations, we may evaluate if we are exposed to water risks in our value chain in the next 2-3 years. An evaluation of our critical supplies for flood risk, water security, and water quality has been conducted.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?
No

W4.3b

(W4.3b) Why does your organization not consider itself to have water-related opportunities?

	Primary reason	Please explain
Row 1	Opportunities exist, but none with potential to have a substantive financial or strategic impact on business	We have not identified any water related opportunities with the potential to have substantive financial impact. All water related opportunities that have been realised would not be considered substantive to our business. An example of an opportunity identified at a UK site that was determined not to have a substantive impact on the business is improved water efficiency in operations due to identification of leaks. Subsequent repairs undertaken on the fire water pipework as well as replacement of the distribution legs from a reservoir resulted in daily water savings of 1,200m3 (to date). Substantive financial or strategic impact on our business is defined as an opportunity that would have a positive impact on the achievement of the objectives within the Group Strategic Framework and underpinning Integrated Business Plans (IBP). The definition of Substantive Impact is determined locally for each business and is typically based upon a financial impact level and a probability of occurrence. For example, it could be a £1M impact at a 20% probability of occurrence. We assess water opportunities regularly as they arise.

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number
Facility 1

Facility name (optional)

Country/Area & River basin

United Kingdom of Great Britain and Northern Ireland	Other, please specify (We are not able to disclose the location due to the nature of our business.)

Latitude

Longitude

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
<Not Applicable>

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
86

Comparison of total withdrawals with previous reporting year
Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources
86

Total water discharges at this facility (megaliters/year)

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water

Discharges to brackish surface water/seawater

Discharges to groundwater

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

Comparison of total consumption with previous reporting year
About the same

Please explain
The facility is located in an area of flood risk but not water stress. Total water discharges is unknown due to addition from surface water.

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. Abstracted water is monitored with a meter against a permitted value. Domestic water is metered, and consumption is billed. Operationally, our environmental management system helps manage and minimize the water we use across our facilities and manufacturing processes.

Water withdrawals – volume by source

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. Abstracted water is monitored with a meter against a permitted value. Domestic water is metered, and consumption is billed. Operationally, our environmental management system helps manage and minimize the water we use across our facilities and manufacturing processes.

Water withdrawals – quality by standard water quality parameters

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. Abstracted water quality is monitored post treatment. Domestic water is metered, and consumption is billed. Operationally, our environmental management system helps manage and minimize the water we use across our facilities and manufacturing processes.

Water discharges – total volumes

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. Water discharges from the facility are well within the daily allowance. Operationally, our environmental management system helps manage and minimize the water we use across our facilities and manufacturing processes.

Water discharges – volume by destination

% verified
Not relevant

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. There is a single destination for water discharge from the facility and is well within the daily allowance. Operationally, our environmental management system helps manage and minimise the water we use across our facilities and manufacturing processes. .Discharge data is recorded locally and or where necessary for the discharge permit.

Water discharges – volume by final treatment level

% verified
Not relevant

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. The water discharge from the facility is not treated and is well within the daily allowance permitted. Operationally, our environmental management system helps manage and minimize the water we use across our facilities and manufacturing processes.

Water discharges – quality by standard water quality parameters

% verified
Not relevant

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. The water discharge from the facility is not treated and is well within the daily allowance permitted. Operationally, our environmental management system helps manage and minimise the water we use across our facilities and manufacturing processes.

Water consumption – total volume

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
BAE Systems has robust internal systems/processes for monitoring. Abstracted water quality is monitored post treatment. Domestic water is metered, and consumption is billed. Operationally, our environmental management system helps manage and minimize the water we use across our facilities and manufacturing processes.

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?
No

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?
Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual or committee	Responsibilities for water-related issues
Board-level committee	The Board has established an ESG Committee to assist the Board in promoting the long-term sustainable success of the Company with regard to ESG. Its duties include (among other things) assisting the Board in overseeing the development of the Group's ESG strategy & monitoring its performance in relation to ESG. We monitor the Company's performance against selected external sustainability indices & review its performance on ESG. The Committee oversees the Company's response in respect of its own impacts on the environment & its response to the potential impacts of climate change on the Company's future/current operations. The Board has the responsibility to ensure that climate-related risks/opportunities are appropriately addressed. We understand that without effective climate governance structures, it will be difficult to make informed strategic decisions, manage climate transition risks & monitor the associated metrics to achieve our climate-related goals. The Committee supports the Board in overseeing the progress of the executive in ensuring that the Company takes an integrated, strategic approach to addressing climate transition risks/opportunities. Understanding how the business may be impacted by environmental factors is one component of mitigating emerging, medium & longer-term risk. Water scarcity is an example of a factor that has the potential to impact our operations, e.g. if a site extracts water for process use. Operationally, our EMSs help manage/minimize the water we use & we protect and support the water ecosystems which our facilities and communities depend on. An example of water-related decisions made by the board in 2022 was the decision to set a bonus related objective on water management for board level members. The objective states that we will 'mature the management of water and waste during 2023 and improve disclosures and set targets for 2024'. An example from the ESG committee in 2022 was the inclusion of water accounting data in the QBRs.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Reviewing and guiding corporate responsibility strategy Reviewing and guiding risk management policies	As part of the Environmental, Social and Governance Committee's agenda, 'environment' is a standing item at board meetings but water is not reviewed explicitly. Our Board oversees, through the Environmental, Social and Governance Committee, our approach to sustainability, including climate change. The Committee ensures that appropriate climate change and environmental programmes are in place and incentives are set as required to reduce the Group's environmental impact. Day-to-day responsibility for environmental issues including climate-related issues sits with our Group ESG, Culture and Business Transformation Director. The ESG Committee is comprised of non-executive directors of the Company appointed by the Board and met five times during 2022. The ESG Committee invites the Chairman, Chief Executive and a number of other senior executives to attend its meetings to discuss and monitor progress on the ESG issues. Water related issues are a scheduled agenda item on a quarterly basis.

W6.2d

(W6.2d) Does your organization have at least one board member with competence on water-related issues?

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	Our Board includes directors who have a deep understanding of water usage within our industrial processes and consequent environmental impacts.	<Not Applicable>	<Not Applicable>

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)
Other, please specify (ESG Committee)

Water-related responsibilities of this position
Other, please specify (Monitoring of water consumption)

Frequency of reporting to the board on water-related issues
Quarterly

Please explain
The organization does not have a group strategic approach to water but manages water consumption through facilities monitoring and reporting data. Environmental reports are provided quarterly, which include water consumption to the ESG Committee.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	No, and we do not plan to introduce them in the next two years	Our Board Environmental, Social and Governance Committee (ESG) make proposals to the Remuneration Committee regarding appropriate ESG related performance objectives for Executive Directors. Provide an assessment as to the outcomes of the ESG related performance objectives as at the end of the reporting period. During 2023, we intend to 'mature the management of water and waste, improve disclosures and set targets for 2024'.

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?
No

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?
Yes (you may attach the report - this is optional)
bae-ar-complete-2022.pdf

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	11-15	Changes and potential process interactions have historically, and will continue to be, considered in association with compliance/impact to permits and authorizations i.e., Abstraction licenses. Focus will be on reduction in water consumption by repairing leaks. Annual water targets are set by some business units to achieve a reduction in consumption on previous years. Since water consumption is based on product demand when production volumes increase it is difficult to reduce consumption. Operationally, our environmental management systems help manage and minimise the water we use across our facilities and manufacturing processes, and we protect and support the water ecosystems which our facilities and communities depend on. Initiatives are specific to how businesses consume water operationally and incorporate stages of manufacture, for example, flooding of dry docks. At multiple sites, leak detection and repair programmes have been undertaken in 2022. We continue to evaluate climate-related scenarios across our global portfolio of sites to be aware of the potential for flooding and drought, to ensure we manage the risk to our people and operations. BAE Systems defines long term as <10 years.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	We continue to support the UN SDGs & remain committed to driving progress on specific goals that are aligned to our sustainability agenda. The SDGs provide a framework for development & address the challenges that the global population faces from tackling climate change & environmental risks through to managing societal needs & building economic growth. The Group is subject to comprehensive environmental laws & regulations in each of the countries in which it operates that impose standards with respect to air emissions, wastewater discharges, the use, handling & storage of hazardous materials & waste, remediation of soil & groundwater contamination & the prevention of pollution. The Group may also be impacted by factors, such as flooding, storms, and scarcity of water & other resources. Understanding business impacts by its environmental factors is a key component of mitigating emerging, medium & longer term risk. Water scarcity is an example that has the potential to impact our operations e.g. if a site extracts water. Operationally, our EMSs help manage and minimize the water we use and we protect & support the water ecosystems which our facilities & communities depend on. Initiatives are specific to how businesses consume water operationally & incorporate stages of manufacture. At some sites, leak detection/repair programmes were ongoing in 2022. We continue to evaluate climate scenarios across our global portfolio to be aware of the potential for flooding/drought.
Financial planning	Yes, water-related issues are integrated	5-10	There are Implications to increases in water costs and therefore these are considered within year-to-year budgets and a five-year rolling consumption / budget forecast is produced and issued to the Procurement utility category lead annually. There is also a five-year capital investment allocation agreed for improvement in water infrastructure at several locations and a detailed plan is being developed on an annual rolling basis. Our Air Sector business targets have been calculated against a baseline consumption, taking into account various planned investments and activities that affect energy, water and waste consumption on three main Air UK sites giving an 'expected' consumption. This is then used as the 'baseline' target in the Environment Metrics. Considering planned initiatives for the sites, and calculating their estimated savings, a 'stretch' target is then set for the Air Sector across all utilities, and this is disseminated to the site targets.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

Anticipated forward trend for CAPEX (+/- % change)

Water-related OPEX (+/- % change)

Anticipated forward trend for OPEX (+/- % change)

Please explain

We will consider how to obtain this information for future responses, we currently capture information on Mains water spend but do not separately collate information on Group water related OPEX.

W7.3

(W7.3) Does your organization use scenario analysis to inform its business strategy?

	Use of scenario analysis	Comment
Row 1	Yes	To understand how long-term impacts of climate change could impact our business, inline with the TCFD recommendations, we conduct climate change scenario analysis. We've conducted qualitative climate change risk/opportunity hotspot mapping to obtain a better understanding of the climate issues that could impact in the future. We've also undertaken quantification of material risk/opportunities against identified scenarios to enable us to develop our views in relation to the resilience of our strategy. We're already taking action on extreme weather events using tools to apply natural catastrophe classifications to our main operational sites globally. We've reviewed these qualitative scenarios along with the material risks/opportunities identified. We've significant experience in managing our exposure to physical risks and our strategy to manage those risks takes into account different climate change scenarios and data already gives a view as to which of our assets are at most risk.

W7.3a

(W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related Climate-related	During 2022, we have continued to develop our understanding of the climate-related risks and opportunities with the potential to impact BAE Systems' business model and strategy. We have built upon our qualitative scenario planning work, and have progressed with quantification of material risk and opportunities against identified scenarios to enable us to develop our views in relation to the resilience of our strategy. In 2022, we undertook quantification of three global, material climate-related risks (physical and transition) and developed our qualitative understanding of transition opportunities. Materiality of risk and opportunities was based on the likelihood of occurrence and potential impact on the Group. For each area, sub-risks and opportunities were identified for quantification. Analysis of these risk and opportunity areas has helped BAE Systems to understand the scale of the unmitigated impact, through the development of a methodology and calculation of the possible financial impact. RCP scenario data has been used, due to its relevance to the Group's decarbonisation strategy, global and regional coverage, timeframes considered and information on drivers and frequency of scenario updates. We continue to evaluate climate-related scenarios across our global portfolio of sites to be aware of the potential for flooding and drought, to ensure we manage the risk to our people and operations. We use the Swiss Re Climate Assessment Tools to look at the impact of natural catastrophes on our portfolio which then informs our risk engineering strategy and engagements with the business around responding to different natural hazards. Climate scenarios have been modelled for 2030, 2050 and 2085. We also assess the natural hazard risks of our critical Tier 1 suppliers' sites. We further developed our understanding of the climate-related risks and opportunities with the potential to impact BAE Systems' business model and strategy as a result of the quantitative scenario modelling which has taken place.	The impact of the physical risks of climate change, such as increasing frequency and severity of extreme weather events, will affect BAE Systems' operations and vary depending on the particular hazard and geography. Initial investigations have identified an increasing risk from flood at certain sites worldwide. Overall, extreme weather events are likely to result in repair costs, adaptation investments and reductions in productivity. Operationally, our environmental management systems help manage and minimise the water we use across our facilities and manufacturing processes, and we protect and support the water ecosystems which our facilities and communities depend on. Some businesses set initiatives and targets to reduce water consumption annually as appropriate. Initiatives are specific to how businesses consume water operationally and incorporate stages of manufacture, for example, flooding of dry docks. We continue to evaluate climate-related scenarios across our global portfolio of sites to monitor for flooding and drought, to ensure we manage the risk to our people and operations. With funding from Innovate UK, we are also working with both Uber Boat by Thames Clippers and Cory Riverside Energy to develop a zero emissions strategy with solutions based on our next-generation electric drive system.	Our global sites are assessed against physical risk of extreme weather events, including risk engineering reviews at site level and a quantification of current potential financial impacts. Any mitigation actions arising from these assessments are included within sector Integrated Business Plan. Mitigation work is already being undertaken, and at multiple sites, leak detection and repair programmes were ongoing through 2022. The Group is subject to comprehensive environmental laws and regulations in each of the countries in which it operates, including those relating to the impacts of climate change. Such laws and regulations impose standards with respect to air emissions, wastewater discharges, the use, handling and storage of hazardous materials and waste, remediation of soil and groundwater contamination and the prevention of pollution. Some of our businesses are setting targets to reduce water consumption. While the Group has addressed the impact on its business effectively to date, given the ongoing risks and uncertainties, it continues to conduct ongoing risk assessments and scenario planning in order that it can respond to potential rapid changes in circumstances. The group will progress scenario planning to quantify climate-related risks and opportunities. The Internal Audit function has increased its level of assurance activity in the ESG sphere and plans to build on its existing capability in 2022.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

Please explain

We use goals and targets to promote reducing water in operations, so we do not use an internal price on water.

W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	No, and we do not plan to address this within the next two years	<Not Applicable>	Important but not an immediate business priority	We are considering recirculating treated water back into site reservoirs, lowering abstraction rates and thus lower the water impact of our products. In high water stress areas in the Middle East, it is already being done and the recycling rates range from 33-84% for the four KSA sites reported.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

Yes

W8.1a

(W8.1a) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category	Please explain
Water pollution	No, and we do not plan to within the next two years	All sites operate an Environmental Management System (EMS), which will require the identification of substances that have the potential to cause harm to the environment, including water pollutants. A UK site also conducted a Water Quality Impact appraisal(s) under COMAH Regulations 2015, to assess whether the site can cause a Major Accident to the surface water quality environment (MATTE). Appropriate controls are implemented to eliminate or minimize the risk of a pollution event at a local-level therefore targets have not been considered necessary.
Water withdrawals	Yes	<Not Applicable>
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	All of the eleven sites from the UK and ROW, monitor services for workers and WASH services which are important for the continuation of operations on an ongoing basis. Welfare facilities are audited by the site Facilities and Safety Teams, therefore targets have not been considered necessary.
Other	Please select	<Not Applicable>

W8.1b

(W8.1b) Provide details of your water-related targets and the progress made.

Target reference number
Target 1

Category of target
Water withdrawals

Target coverage
Site/facility

Quantitative metric
Reduction of water withdrawals from surface water

Year target was set
2022

Base year
2021

Base year figure
1046824

Target year
2022

Target year figure
1025888

Reporting year figure
950243

% of target achieved relative to base year
461.315437523882

Target status in reporting year
Achieved

Please explain
The replacement of high level reservoir distribution lines has resulted in large savings being achieved in abstracted water quantity due to a significant reduction in leaks.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?
No, we do not currently verify any other water information reported in our CDP disclosure

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Yes	Direct operations	All UK business have reviewed the materials they purchase for the purposes of containment, protection, handling delivery and presentation of goods for which we pack, fill or sell. This is broken down by category of material, plastic being one of the materials covered. All UK locations which meet the tonnage requirements set out in the historical Producer Responsibility (Packaging Waste) Regulations 2007 monitor, assess and report on this packaging waste including plastics. UK business which are eligible monitor and report on plastic which is durable, imported, exported and transit packaging. In doing so the business ensures it meets the targets for recovery and recycling of packaging waste and supports the UK to meet the directive targets for recovery and recycling. UK business where applicable will continue to capture and report on plastic packaging data under the new Packaging Waste (Data Reporting) Regulations 2022. In addition to this the UK government introduced the Plastic Packaging Tax Regulations 2022 the aim being to stimulate increased levels of recycling and collection of plastic waste, diverting it away from landfill or incineration. All UK business have assessed the applicability of the new regulations and where required will continue to monitor and report and work within the guidance provided by the UK government in order to support the increased levels of recycling and collection of plastic waste. Of the Inc. sites for which information was collected, we have not mapped where plastics are used and/or produced within the value chain, and we do not plan to do so within the next two years. At one of our US sites, we have installed water bottle re-fill stations that count the number of water bottles saved through use of re-usable containers.

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	We acknowledge the potential environmental and human health impacts of use of plastics and are taking a business-led approach to setting consumption of resources and materials reduction targets and driving improvement programmes and activities to support responsible consumption. Within our environmental management system all businesses identify aspects which can have a significant environmental impact, and plan to take action to address these significant aspects including the associated risks and opportunities. Where the use and consumption of plastic is deemed as significant, sectors have worked with suppliers to address these specific aspects. Sectors set objectives to improve the performance of their operations such as reducing generation of waste; however this is not specifically in relation to plastic alone. Throughout 2022, our sites have progressed with the reduction of waste by addressing the specific production and non-production waste streams of programmes and facilities. Activities have included reducing the amount of waste going to landfill via recycling, treatment and incineration, and adapting our manufacturing processes. Priorities for improvement have been identified, for example, our Supply Chain team ran a sustainable project which due to the recycling of components used in the manufacturing process, resulted in 75% fewer single-use plastic delivery bags.

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Not assessed – but we plan to within the next two years	<Not Applicable>	<Not Applicable>	We will work towards establishing a risk assessment of our plastics value chain. If this identifies any aspect which has a significant risk to our business environment then mitigating measures will be implemented to reduce its significance and will lead to site specific objectives being set.

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	No – and we do not plan to within the next two years	<Not Applicable>	<Not Applicable>	Where environmental aspects and impacts assessment identifies an aspect which has a significant effect on the environment mitigating measures will be implemented to reduce significance, this leads to site specific objectives being set.

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	
Production of durable plastic components	No	
Production / commercialization of durable plastic goods (including mixed materials)	No	
Production / commercialization of plastic packaging	No	
Production of goods packaged in plastics	Yes	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	

W10.8

(W10.8) Provide the total weight of plastic packaging sold and/or used, and indicate the raw material content.

	Total weight of plastic packaging sold / used during the reporting year (Metric tonnes)	Raw material content percentages available to report	% virgin fossil-based content	% virgin renewable content	% post-industrial recycled content	% post-consumer recycled content	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used	47.98	Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	In the UK the total amount of plastic packaging which was packed/filled and sold equates to roughly 47.98 tonnes as an estimate. Information for other regions is not currently available, but we intend to collect it in future years.

W10.8a

(W10.8a) Indicate the circularity potential of the plastic packaging you sold and/or used.

	Percentages available to report for circularity potential	% of plastic packaging that is reusable	% of plastic packaging that is technically recyclable	% of plastic packaging that is recyclable in practice at scale	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used	Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	Information not currently available but it will be in the future years.

W11. Sign off

W-FI

(W-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.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Group Director Governance, Conduct & Sustainability, Group Governance Conduct & Sustainability	Business unit manager

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

No

Please confirm below

I have read and accept the applicable Terms