AECI Ltd Ord - Climate Change 2021

C0. Introduction

C0.1

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

AECI is a diversified group. It has regional and international businesses in Africa, Europe, Asia's South Eastern region, North America, South America and Australia. Products and services are provided to a broad spectrum of customers in the mining, water treatment, plant and animal health, food and beverage, infrastructure, and general industrial sectors.

The Group's vision is to deliver sustainable solutions for a better world through innovation and excellence founded on 'good chemistry.' In line with this vision, businesses are managed in four growth pillars. AECI Mining, AECI Water, AECI Agri Health, AECI Chemicals. These pillars are AECI's key reporting segments. More information is provided on each of these pillars below:

*· **AECI Mining:** The businesses in this segment provide a mine-to-mineral solution for the mining sector internationally. The offering includes commercial explosives, initiating systems, blasting services and surfactants for explosives manufacture right through the value chain to chemicals for ore beneficiation and tailings treatment.*

*· **AECI Water:** This business provides customers on the African continent with integrated water treatment solutions, process chemicals and equipment solutions for a diverse range of applications. These include, inter alia, public, and industrial water, desalination, and utilities.*

*· **AECI Agri Health:** Businesses in this segment manufacture and distribute crop protection products, plant nutrients, animal premixes, specialty animal health products and fine chemicals on the African continent, in Europe and in the USA.*

*· **AECI Chemicals:** Businesses in this segment supply raw materials and related services to a broad spectrum of customers in the food and beverage, manufacturing, infrastructure, and general industrial sectors. Their markets are mainly in South Africa and in other Southern African countries, except for AECI SANS Fibers which is based in the USA.*

AECI also has a property division, AECI Property Services & Corporate. It is mainly involved in property leasing and management in the office, industrial and retail sectors, and corporate centre functions including the treasury.

All business activities are underpinned by the Group's BIGGER values — of being Bold, Innovative, Going Green and being Engaged and Responsible.

Please note that, although we have a presence in 22 countries, we only report in this submission on those countries in which we have manufacturing operations.

Going Green

AECI is committed to driving solutions for a sustainable future. In line with our value of Going Green, we aim to provide sustainable alternatives for our customers, work smarter and conserve resources and energy and take into account how our work and processes impact people and the environment.

The reporting year saw the development of a strategy 2025 framework direction which has zero harm and sustainability at its core. It also saw the introduction of emission reduction, energy efficiency and renewable energy targets to take us to 2025. More specifically, we have put in place a target to reduce our Scope 1 emissions by 25% and our Scope 2 emissions by 8% by 2025 (a combined target of 15% reduction in Scope 1 and 2 emissions). Baselines were determined by analysing data over the period 2017 to 2019. We implemented projects to reduce our emissions and have more planned to meet our targets.

Total Scopes 1 and 2 emissions for the 2020 financial year (1 January 2020 to 31 December 2020) were 575 375 tCO2e. Scope 1 and 2 emissions decreased by 11% mainly due to the impact of COVID-19 and the associated restrictions that restricted activity in certain of our businesses. Some of this reduction can be attributed to divestments and also emission reduction efforts.

In the reporting year, climate change continued to feature as a material matter. For example, extreme and unpredictable weather events and unstable electricity and water supply were identified as two of such matters. Accordingly, the focus on minimising and managing climate-related risks, whilst maximising opportunities, remains.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2020	December 31 2020	No	<Not Applicable>

C0.3

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

Australia
Botswana
Brazil
Burkina Faso
Chile
China
Democratic Republic of the Congo
Eswatini
Germany
Ghana
Guinea
Indonesia
Malawi
Mali
Namibia
Senegal
South Africa
United Republic of Tanzania
United States of America
Zambia
Zimbabwe

C0.4

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

ZAR

C0.5

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

Financial control

C-CH0.7

(C-CH0.7) Which part of the chemicals value chain does your organization operate in?

Row 1

Bulk organic chemicals

Aromatics

Bulk inorganic chemicals

Ammonia
Fertilizers
Nitric acid

Other chemicals

Specialty chemicals
Specialty organic chemicals

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Board Chair	AECI Board, in conjunction with management, is ultimately responsible for the execution of the strategy. The AECI Board is led by the Board Chair. The Group's vision is to deliver sustainable solutions for a better world through innovation and excellence founded on 'good chemistry.'. It is acknowledged that the vision cannot be achieved without effective management of risks and opportunities, including those which are climate related. Accordingly, climate-related risks are among our most material matters: a) Unstable electricity supply and electrical infrastructure challenges in South Africa, potentially leading to business disruption; b) Unstable water supply due to failure of local Infrastructure; c) Potential ban on certain chemical products; and d) Extreme and unpredictable weather events. The AECI Board is ultimately responsible for the identification and monitoring of activity in respect of all material matters that could influence the delivery of AECI's strategy and growth objectives both positively and negatively. Accordingly, the Board is the ultimate custodian of climate-related issues. The Board met five times in the year, including a two-day session to provide input into the development of the 2025 strategy. A special meeting was convened to focus on the Group's risk management and other strategic imperatives, also for the next five years. Climate-related decisions made in the reporting year included, amongst others: a) The development of a strategy 2025 framework direction which has zero harm and sustainability at its core; b) The introduction of emission reduction, energy efficiency and renewable energy targets to be achieved by 2025; and c) The publication of a separate sustainability report. The Board has delegated the primary responsibility to consider, recommend and monitor AECI's activities with regard to environmental matters, including climate change, to the Social and Ethics Committee. This Committee reports to the full Board. Where required, the Social and Ethics Committee also draws on the work of the Board-appointed Risk Committee.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	The Board met five times in the year, including a two-day session to provide input into the development of the 2025 strategy. A special meeting was convened to focus on the Group's risk management and other strategic imperatives, also for the next five years. The Board receives reports from the Social and Ethics Committee to which it has delegated responsibility to consider, recommend and monitor AECI's activities with regards to environmental matters, including climate-related items. The Social and Ethics Committee met quarterly in 2020. It reported to the full Board on its work as it related to climate issues at all meetings of the Board. The information conveyed by the Social and Ethics Committee to the Board, in writing, typically comprises the following: a) Compliance with climate-related legislation such as the carbon tax in South Africa; b) Climate-related risk and opportunity identification and management; c) Performance against emission reduction targets; and d) Progress made in terms of key climate-related mitigation and adaptation projects, such as the air emissions abatement projects at Modderfontein. The information is used by Board to ensure that all climate-related material matters have been identified and are being managed effectively. This, in turn, provides the Board with reassurance that AECI will be able to realise its strategy and achieve its growth objectives. It also allows the Board to evaluate whether proper policies, procedures and controls are in place to manage climate-related issues.

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly

C1.2a

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

The Chief Executive is the highest management-level position with responsibility for climate-related issues. The Chief Executive has the overall, primary management and leadership role in the organisation. This includes responsibility for climate-related issues. The Chief Executive is ultimately responsible for assessing and monitoring of climate-related issues given their significance for the successful execution of the strategy and the achievement of business objectives. The Chief Executive is responsible for mobilising resources in the organisation for this. The Chief Executive reports to the Board.

The Chief Executive is supported by the Group Safety, Health and Environment Manager. This Manager has day-to-day responsibility for climate-related issues and reports directly to the Chief Executive. This Manager reports also provides feedback to the Social and Ethics Committee on environmental performance, including climate-related issues. The Manager is supported by the Group Environmental Specialist who provides environmental support and advice to the AECI Group as a whole.

Further to the Chief Executive, the Social and Ethics Committee is also responsible for oversight and guidance on climate-related issues. It is a Board-appointed Committee that reports back to the full Board. Responsibility for climate-related issues rests in this Committee by virtue of its mandate. The Committee is mandated to consider, recommend, monitor, and report to the Board on the environmental impact of AECI's activities, products, and services. The Committee is further mandated to provide guidance and advice on sustainability trends and issues relevant to the AECI Group as well as review and approve the Group's Sustainability Policy from time to time. The Committee is informed of the sustainability risks as recorded in the AECI Group risk register and provides related input to the Risk Committee, as appropriate. Further, the Committee reviews safety, health, and environmental incident reports.

The Social and Ethics Committee meets on a quarterly basis. In these meetings, the Committee reviews AECI's environmental performance. This includes AECI's mitigation activities and its management of climate-related risks and opportunities.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

C1.3a

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

Entitled to incentive	Type of incentive	Activity inventivized	Comment
Director on board	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target	Commitment to the Going Green programme feeds into the Key Performance Indicators (KPIs) of leadership at this level. The implementation of emission reduction projects and the achievement of emission reduction targets is included, particularly for short-term incentives
Environment/Sustainability manager	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target	Commitment to the Going Green programme feeds into the KPIs for Safety, Health and Environmental (SHE) Managers in individual Group businesses. The implementation of emission reduction projects and the achievement of emission reduction targets are part of this. More specifically, the impact is on the short-term incentive award.
Corporate executive team	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target	The short-term incentive is awarded in recognition of Group performance and the achievement of individuals' goals and objectives. The long-term incentive is awarded in recognition of the creation of shareholder value and long-term performance and sustainability. Climate change issues are integrated into both awards. Effective management of climate-related risks and opportunities promotes growth, value creation, performance, and sustainability. Effective management of climate-related risks and opportunities requires the reduction of GHG emissions and energy consumption and the improvement of efficiency.
Director on board	Non-monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target	An environmental award is given to the Managing Executive of the business that excels in terms of reducing GHG emissions, energy and water usage, and waste generation. In 2020, this award was given to AECI Plant Health for zero environmental incidents, 100% compliance with environmental permits and licences, implementation of a new stormwater project and good progress made on air emissions abatement projects.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	2	Short-term is defined as up to two years. This is in line with the other business practice time horizons.
Medium-term	2	5	Medium-term is defined as two to five years. This is in line with the other business practice time horizons.
Long-term	5		Long-term is defined as five years or longer This is in line with the other business practice time horizons.

C2.1b

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

Substantive financial impact is defined in the consequence scales. A rating ranging from minor to severe is included in the consequence table with an associated financial amount. The table below outlines the ratings and associated financial impact -

Score: 5 ; Rating: severe; Financial impact: >R120 million (loss or gain)

Score: 4 ; Rating: Major; Financial impact: R80 – R120 million (loss or gain)

Score: 3 ; Rating: Serious; Financial impact: R40 – R80 million (loss or gain)

Score: 2; Rating: Moderate; Financial impact: R5 – R40 million (loss or gain)

Score: 1 ; Rating: Minor; Financial impact: R0 – R5 million (loss or gain)

C2.2

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

Value chain stage(s) covered
Direct operations

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
The Group follows a risk management methodology comprising both bottom-up and top-down processes. The methodology adopts a holistic approach in identifying, analysing, evaluating, treating, monitoring, and reviewing risks. This risk assessment process covers all businesses and their value chains, in all geographies where they operate. Site-level risks are identified, assessed in a bottom-up process. Management teams of individual businesses are required to identify risks and quantify the likelihood, timeline, and magnitude of each. The teams are also required to formulate risk management plans. The AECI Head Office provides support in the risk identification and prioritisation process through workshops and other forums. The top-down process involves management at Head Office level. Risks identified at site level are reviewed and rolled up to Group level, as appropriate. Risk identification at Group level is also informed by the assessment and monitoring of the broader context in which the Group operates in terms of the political and economic landscape, industry, labour, and financial market trends. Work includes the analysis of research materials and industry benchmarking studies by institutions such as the World Economic Forum, the World Bank and Control Risk. These serve as an early warning system or a mechanism for the identification of future risks and opportunities. At site-level, the size and scope of each risk is determined by the management teams of the individual businesses. The teams allocate each risk a rating based on the likelihood of occurrence and the magnitude of impact. These risks are reported to management at AECI Head Office which consolidates and prioritises the risks identified by the assigned rating. Risks, including climate-related risks, are prioritised on a 5 x 5 rating scale that sets out potential impact (magnitude of impact) and estimated probabilities (likelihood of occurrence). The potential impact is classified as minor, moderate, serious, major, or severe and is linked to both a qualitative and quantitative residual risk value. The estimated probability is classified as almost certain (monthly basis), likely (once in one year), possible (once in three years), unlikely (once in five years) or rare (once in more than five years). Opportunities are also prioritised using a similar approach based on impact and likelihood. The risk assessment process and terminology are underpinned by the Group Risk Management Policy and the Group Enterprise Risk Management Framework which are based on the principles of ISO 31000 and King IV in South Africa. Outcomes of the risk assessment process inform decision-making. In 2020, the following climate-related material matters, among others, were identified through the application of the above process – a) Additional regulatory compliance relating to CO2 emissions; b) Potential ban on certain chemical products; and c) Extreme and unpredictable weather events. Failure of climate change mitigation and adaptation, leading to drought, water shortages and reduced agricultural output (affecting the mining, water treatment and agricultural sectors in particular).

Value chain stage(s) covered
Upstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Upstream risks in the value chain are considered in the risk assessment process. The process whereby the risks are identified, analysed, evaluated, treated, monitored, and reviewed is the same as that described for risks and opportunities in direct operations. In 2020, the following climate-related material matters, amongst others, were identified as risks in the upstream value chain – a) Unstable water supply due to failure of local infrastructure, resulting in business disruption; b) Unstable electricity supply and electrical infrastructure challenges in South Africa, potentially leading to business disruption; and c) Extreme and unpredictable weather events. Failure of climate change mitigation and adaptation, leading to drought, water shortages and reduced agricultural output (affecting the mining, water treatment and agricultural sectors in particular).

Value chain stage(s) covered
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Downstream risks in the value chain are also considered in the risk assessment process. The process whereby the risks are identified, analysed, evaluated, treated, monitored, and reviewed is the same as that described for risks and opportunities in direct operations. In 2020, the following climate-related material matters, amongst others, were identified as risks in the downstream value chain – a) Unstable water supply due to failure of local infrastructure, resulting in business disruption; b) Unstable electricity supply and electrical infrastructure challenges in South Africa, potentially leading to business disruption; c) Additional regulatory compliance relating to CO2 emissions; d) Potential ban on certain chemical products; and e) Extreme and unpredictable weather events: Failure of climate change mitigation and adaptation, leading to drought, water shortages and reduced agricultural output (affecting the mining, water treatment and agricultural sectors in particular).

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Current regulation is relevant and is always included in our risk assessment. Management at business and overall Group level is required to determine any exposure to regulatory risks. An example is the achievement of Minimum Emission Standards under South Africa's Air Quality Act No. 39 of 2004. To manage this risk, AECI has implemented and will continue to implement several abatement projects at certain operating plants in Modderfontein. AECI also applied for and received approval for the postponement of compliance with 2025 for some installations.
Emerging regulation	Relevant, always included	Emerging regulation is relevant and is always included in our risk assessment. Management at business and overall Group level is also required to determine any exposure to risks associated with emerging regulations. Emerging carbon pricing is a risk. For example, in the last reporting year South Africa introduced a carbon tax. To manage this risk, the Group Environmental Specialist, with other external carbon tax specialists, assisted Group businesses to understand if they were liable for this tax. Management at Head Office also assisted those that are liable to license for the carbon tax with the South African Revenue Service and to complete the necessary carbon tax returns.
Technology	Relevant, always included	All risks associated with technological improvements or innovation that support the transition to a low carbon economy are relevant and are always included in the risk assessment process. Management at business and overall Group level is required to identify risks related to technology that may arise as a result of climate change. Opportunities related to technology are also identified. Examples include: • SupPlant smart irrigation system. This technology is a sensor-based system that waters crops according to gathered data, while optimising water consumption and alerting farmers of the state of crops, soil, air, and irrigation in a field, vineyard, or orchard. • AECI Plant Health's NuWay® methodology which uses precision analysis, remote sensing, and tailored chemistry to address long-term soil health. It enhances agricultural output and delivers healthier crops. An example of the holistic NuWay® offering is Biocult which uses mycorrhizae to enhance plant nutrition, soil biology and soil chemistry. Application can improve soil carbon sequestration by up to 15%. • To support the credible climate change commitments of product manufacturers and brands, AECI Chemicals is involved in developing and supplying emulsifiers that enable a change from hot to cold production processes for lotions, creams, and hair products. Without the need for heating, manufacturers use less energy and have a lower carbon footprint.
Legal	Relevant, always included	The risk of litigation relating to non-compliance with climate-related regulation is relevant and is always considered in the risk assessment. Compliance is of utmost importance to us. Management teams of each Group business are required to identify any business risk exposure to litigation. One example is compliance with the 2020 Minimum Emissions Standards in South Africa. These standards took effect on 1 April 2020. It is acknowledged that failure to comply could result in litigation. To avoid this, AECI invested and continues to invest in operations at Modderfontein. Due to the timing of certain projects, postponement of compliance with some standards until 2025 was applied for and granted by the authorities. However, a strategic decision was taken to accelerate related efforts and we intend to be fully compliant before the end of 2021.
Market	Relevant, always included	Management teams at business level are required to identify whether their products and services are exposed to risks from shifts in supply and demand because of climate change. Some Group businesses identified market-related opportunities presented by climate change. An example is AECI Water which provides integrated water treatment solutions for a diverse range of applications in Africa. These include, inter alia, public, and industrial water, desalination, and utilities. AECI Water noted increased demand for its products and services because of the physical effects of climate change. It installed four desalination plants in the Western Cape in 2018 and has secured service contracts for these plants. The introduction of carbon tax in South Africa may also result in market changes and increased demand for some products and services. An example here is Biocult which has developed a mycorrhizae-based product that assists farmers in increasing crop yields and making plants more resistant to climate-related impacts. The product has the added benefit of sequestering carbon in the soil. If customers were to claim for this sequestered carbon it could reduce their direct carbon tax liability.
Reputation	Relevant, always included	Reputational risks are evaluated at site and Group levels. They could materialise if AECI were unable to meet regulatory requirements and manage its GHG emissions and climate-related risks and opportunities effectively. For this reason, AECI introduced emission reduction and renewable energy targets to be achieved by 2025. We are in the process of identifying projects that can be implemented to realise these targets.
Acute physical	Relevant, always included	Increased frequency and severity of extreme weather events resulting from climate change are relevant and are always included in the risk assessment process. Management teams of all AECI businesses are required to identify whether their own business is exposed to acute physical risks. In the reporting year, one of the material risks to the Group was 'extreme and unpredictable weather events, and failure of climate change mitigation and adaptation, leading to drought, water shortages and reduced agricultural output.' For us, our operations on the African continent are of particular relevance here since general water scarcity is exacerbated by the El Niño-Southern Oscillation (ENSO) regional weather pattern and recent multi-year drought effects. We are concerned about production interruptions brought about by inadequate supply of water of the requisite quality, and the impact of extreme weather events on infrastructure and the activities of our customers in the agricultural and mining sectors in particular.
Chronic physical	Relevant, always included	Changes in rainfall patterns and ambient temperature are considered by management when identifying risks to individual businesses and the Group as a whole. AECI Agri Health, for example, sells products to the agricultural sector, the success of which is heavily reliant on weather and associated rainfall patterns. AECI Plant Health's performance was adversely affected by drought effects in the Western Cape in 2018. Although performance has since improved because of a more normalised rainfall seasons in that province in subsequent years, it is acknowledged that this is still a risk.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation	Carbon pricing mechanisms

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

This risk relates to compliance with climate-related regulation (in particular emissions limits and carbon pricing). Non-compliance with legislation could result in fines and/or temporary closure of the non-compliant operation. This, in turn, would result in lost production and reputational damage. Examples of regulation relevant to the reporting year include the Minimum Emissions Standards and the South African carbon tax.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact
High

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

Potential financial impact figure (currency)
1118900000

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

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

Explanation of financial impact figure
The financial impact is estimated at 10% of revenue from AECI Mining, where the biggest risk lies.

Cost of response to risk
180000000

Description of response and explanation of cost calculation
Actions to mitigate this risk include: • Monitoring legislative developments and engaging with authorities on proposed regulation, where necessary. For example, in 2019 a meeting was held to finalise applications for the postponement of compliance with the 2020 Minimum Emission Standards for certain operating plants in Modderfontein. In terms of South Africa's National Environment Management Act: Air Quality Act, the new Standards took effect on 1 April 2020. Postponement of compliance to 2025 was applied for and granted by the Department of Forestry, Fisheries and Environment to allow for abatement projects to be completed. • Appointing specialists to assist us in determining the potential impact of new regulations on our businesses and to assist our businesses to implement the necessary processes to ensure compliance. • Implementing projects to reduce emissions and carbon tax liability. An example is the capital investment allocated to air emissions abatement projects at AECI Mining, Modderfontein. The cost of the response is the capital allocated to these air emissions abatement projects.

Comment

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

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

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Amplified by the effects of climate change, water stress is a rising concern for industrial operations globally. For us, our operations on the African continent are of particular relevance here since general water scarcity is exacerbated by the El Niño-Southern Oscillation (ENSO) regional weather pattern and recent multi-year drought effects. Material risks for our operations on the continent include production interruptions brought about by inadequate supply of water of the requisite quality, and the impact of extreme weather events on infrastructure and the activities of our customers in the agricultural and mining sectors, in particular.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

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

Potential financial impact figure (currency)
241110000

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

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

Explanation of financial impact figure
The potential financial impact is estimated at 1% of total revenue.

Cost of response to risk
105000000

Description of response and explanation of cost calculation
We manage this risk through: • Diversification of our portfolio. We invest in a number of businesses that operate in different geographies and different industry sectors. • We insure against this risk. In instances where the risk cannot be eliminated by our own actions (i.e. risks beyond our control), we insure as a way to manage the risk. The cost of the response is the value of insurance premiums (rounded off) for the reporting year. • We are actively engaged in making our operations and those of our customers more resilient. For example, we have targets in place to minimise our water withdrawals and reduce our effluent discharge volumes. We have implemented and continue to implement projects to achieve these targets.

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Downstream

Risk type & Primary climate-related risk driver

Market	Changing customer behavior

Primary potential financial impact
Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
A shift in our customers' buying preferences because of climate change and its impact has been noted. There is a move towards products that are low carbon, avoid the generation of emissions and/or enable increased resilience in light of the impact of climate change. If we are unable to meet these changing demands, customers may look to other suppliers. This would reduce demand for our products and services, impacting negatively on revenue and profitability.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

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

Potential financial impact figure (currency)
241110000

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

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

Explanation of financial impact figure
The financial impact is estimated at 1% of our total revenue for the reporting year.

Cost of response to risk
65000000

Description of response and explanation of cost calculation
We manage this risk primarily by: Developing new products and services. The cost of the response is the investment in R&D in the 2020 financial year. Examples of R&D investments include: • Better Mining: investment in the development of products that deliver better results in hot hole and reactive ground conditions, conversion to underground bulk emulsion delivery systems and the in-house development of digitalised solutions; • Better Water: investment in the development of new technologies in support of sustainable Better Water such as technologies that reduce the volume of water needed for irrigation purposes without compromising yields; • Better Food Systems: investment in solutions that seek to better complement the ecological processes which are important for sustainable agriculture such as the use of mycorrhizae by Biocult which can improve soil carbon sequestration by up to 15%; and • Better Chemistry: investment in chemicals and ingredients that enable greener chemistry such as the development and supply of emulsifiers that enable a change from hot to cold production processes for lotions, creams, and hair products. Without the need for heating, manufacturers use less energy and have a lower carbon footprint. Investing in entities that are developing new businesses. Examples include: • Origin Materials: this company has pioneered the development of bio-based chemicals which can be processed into many products for application in global markets. • SupPlant: the technology uses artificial intelligence to improve crop health through, inter alia, efficient irrigation while increasing yields. Precision sensors placed on individual plants reflect exact moisture requirements and feed the data to a control centre for irrigation. To date, 13 installations have been placed on customer farms totaling 435 hectares. The objective is to expand the offering to 7 000 hectares by 2025.

Comment

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Downstream

Risk type & Primary climate-related risk driver

Chronic physical	Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact
Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
This risk relates to disruptions to customers' operations because of changing weather patterns. It is acknowledged that any such disruption could reduce demand for our products and services, resulting in a reduction in revenue and profitability. AECI Plant Health sells products for the agricultural sector, the success of which is heavily reliant

on weather and associated rainfall patterns. The drought in the Western Cape had a negative effect on profits from AECI Plant Health in 2018. Persistent drought effects impacted the performance of the local water treatment chemicals market in 2018. Diminished water flow rates result in lower turbidity and hence lower dosages of purification chemicals are requited. This had a negative effect on AECI Water's revenue in the 2018. Although the examples above pertain to 2018, it is acknowledged that this is still a risk to our business.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

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

Potential financial impact figure (currency)
92000000

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

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

Explanation of financial impact figure
The potential financial impact is the reduced profit realised by AECI Plant Health and AECI Water in 2018, primarily due to the effects of the drought in the Western Cape.

Cost of response to risk
65000000

Description of response and explanation of cost calculation
This risk is managed in the following ways: • Ongoing engagement with customers to understand their needs and identify how best AECI can meet those needs. • Investment in R&D which allows our businesses to diversify their product offering. Examples include: • AECI Plant Health's holistic product and service offering for sustainable agricultural practices across its customer base. Included in the offering are solutions to reduce water usage and allow crops to better withstand the effects of variable weather patterns associated with climate change. An example of the holistic NuWay® offering is Biocult which uses mycorrhizae to enhance plant nutrition, soil biology and soil chemistry. Application can improve soil carbon sequestration by up to 15%. • Our investment in SupPlant. This technology is a sensor-based system that waters crops according to gathered data, while optimising water consumption and alerting farmers of the state of crops, soil, air, and irrigation in a field, vineyard, or orchard. The cost of the response is the investment in R&D in the 2020 financial year.

Comment

Identifier
Risk 5

Where in the value chain does the risk driver occur?
Upstream

Risk type & Primary climate-related risk driver

Chronic physical	Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
This risk relates to the unstable electricity supply in South Africa and elsewhere on the continent, aggravated by changes in weather patterns. Inability to access a stable supply of this resource could result in lost production and associated revenue and profitability losses. South Africa experienced rotational power cuts in 2020. These are expected to continue for the foreseeable future. They are also anticipated to become more frequent due to changes in precipitation patterns and extreme variability in weather patterns which could disrupt the generation of electricity owing to the inability to burn wet coal.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

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

Potential financial impact figure (currency)
241110000

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

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

Explanation of financial impact figure
The financial impact of this is estimated at 1% of total revenue for the reporting year.

Cost of response to risk
50000000

Description of response and explanation of cost calculation
To manage this risk, AECI registered AECI Mining Explosives as an Independent Power Producer to enable the business to function off the grid. AECI has also committed to installing four solar plants at its South African operations. These will be pilot projects for our own energy consumption and will be ramped up if successful. AECI will increase its share in electricity from renewable sources by 8% off a baseline of 249 609MWh. The investment in emission reduction and renewable energy projects is expected to be in the region of R50 million. This is reported as the cost to manage this risk.

Comment

C2.4

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

C2.4a

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

Identifier
Opp1

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development of new products or services through R&D and innovation

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Increasingly stringent environmental regulation has resulted in customers exploring ways to minimise their environmental impact and increase their resilience in the face of climate-related challenges. Being able to provide them with products and services that support this presents an opportunity for AECI.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

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

Potential financial impact figure (currency)
2411100000

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

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

Explanation of financial impact figure
It is estimated that 10% of total revenue may result in future from low carbon and/or environmentally friendly products and services.

Cost to realize opportunity
65000000

Strategy to realize opportunity and explanation of cost calculation
To realise this opportunity, we invest in R&D to deliver Better Mining, Better Water, Better Food Systems and Better Chemistry in line with our Sustainability Framework. Supported by the AECI Growth Office (AECI.GO) and the ongoing, Group-wide innovation drive, our teams explore new products, processes and technologies that can be scaled to deliver our purpose. Examples include: • Better Mining: Investment in the development of products that deliver better results in hot hole and reactive ground conditions, conversion to underground bulk emulsion systems and the in-house development of digitalised solutions; • Better Water: Investment in the development of new technologies in support of sustainable Better Water such as technologies that can reduce the volume of water needed for irrigation purposes without compromising yields; • Better Food Systems: Investment in solutions seek to better complement the ecological processes important for sustainable agriculture such as the use of mycorrhizae by Biocult which can improve soil carbon sequestration by up to 15%; and • Better Chemistry: Investment in chemicals and ingredients that embody greener chemistry such as the development and supply of emulsifiers that enable a change from hot to cold production processes for lotions, creams, and hair products. Without the need for heating, manufacturers use less energy and have a lower carbon footprint. The cost to realise these opportunities is the investment in R&D in the 2020 financial year.

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Upstream

Opportunity type
Resilience

Primary climate-related opportunity driver
Participation in renewable energy programs and adoption of energy-efficiency measures

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
Unreliability of supply from the national grid and rising electricity costs, are driving businesses to consider energy reduction and renewable energy initiatives in their activities. This enables lower operating costs.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Medium

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

Potential financial impact figure (currency)
30000000

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

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

Explanation of financial impact figure
Monetary savings that could result from initiatives planned to achieve our target (estimated at R30 million/annum)

Cost to realize opportunity
50000000

Strategy to realize opportunity and explanation of cost calculation
To realise this opportunity, we have set emission reduction and renewable energy targets to be achieved by 2025. We have also implemented and continue to implement projects to reduce our GHG emissions. Examples include: • Installation of a secondary catalyst at AECI Mining Explosives' nitric acid plants in Modderfontein is expected to reduce GHG emissions by approximately 45%. N_2O has a greenhouse potency more than 296 times that of carbon dioxide. Our investment of R10 million will deliver a reduction in the Group's footprint from the end of 2021 and support the achievement of our 2025 reduction target. • The introduction of waste methane gas into the feed for steam production by AECI Property Services at the Umbogintwini Industrial Complex is reducing both its costs and upstream GHG emissions. • AECI Schrim has implemented several emission reduction projects. For example, it reduced natural gas consumption by installing a new insulated roof and insulating part of another two roofs. • AECI Much Asphalt used gas as an alternative fuel source to HFO. We have also committed to installing four solar plants at our South African operations. These will be pilot projects for our own energy consumption and will be ramped up if successful. AECI will increase its share in electricity from renewable sources by 8% off a baseline of 249 609MWh. The investment in emission reduction and renewable energy projects is expected to be in the region of R50 million. This is reported as the cost to realise this opportunity.

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Products and services

Primary climate-related opportunity driver
Ability to diversify business activities

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
We have the opportunity to invest in new businesses that assist customers to reduce emissions and increase resilience to climate change impacts. These new ventures will diversify our business activities, resulting in increased revenue.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

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

Potential financial impact figure (currency)
2411100000

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

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

Explanation of financial impact figure
It is estimated that 10% of total revenue may result in future from low carbon and/or environmentally friendly products and services.

Cost to realize opportunity
66550000

Strategy to realize opportunity and explanation of cost calculation
To realise this opportunity, we established AECI.GO. Its mandate covers two main areas: enhancing the delivery of the Group's current businesses ("Business of Today") and identifying disruptors and customer needs that will shape the Business of Tomorrow. It looks to invest in new businesses. Examples include: • We invested in Origin Materials, a start-up based in California, USA. This company has pioneered the development of bio-based chemicals which can be processed into many products for application in global markets. The cost to realise opportunities is the quantum of the investment made in this company. • We secured access to technology from an Israeli-based agri-tech start-up called SupPlant. The technology uses artificial intelligence to improve crop health through, inter alia, efficient irrigation while increasing yields. Precision sensors placed on individual plants reflect exact moisture requirements and feed the data to a control centre for irrigation. To date, 13 installations have been placed on customer farms totalling 435 hectares. The objective is to expand the offering to 7 000 hectares by 2025.

Comment

C3. Business Strategy

C3.1

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

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-carbon transition plan	Intention to include the transition plan as a scheduled resolution item at Annual General Meetings (AGMs)	Comment
Row 1	Yes, in the next two years	No, we do not intend to include it as a scheduled AGM resolution item	

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?
Yes, qualitative, but we plan to add quantitative in the next two years

C3.2a

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

Climate-related scenarios and models applied	Details
2DS	In line with the Paris Agreement, AECI acknowledges the need to limit the increase in global average temperature to well below 2°C above pre-industrial levels. For this reason, we have used the 2DS qualitatively in the development of our business strategy. We plan to consider this scenario quantitatively in the next two years. The time horizons covered by our business strategy include short (0 to 2 years), medium (2 to 5 years) and long term (in excess of five years). This is in line with our other business practice time horizons. It is also in line with the periods over which we consider climate-related risks and opportunities and the impact on our business. The impact of the consideration of 2DS in our business strategy is demonstrated by the inclusion of Going Green as one of our corporate values. This value underpins all our business activities. More specifically, we commit to: • Providing sustainable alternatives for our customers; • Conserving energy and other natural resources; and • Developing and embracing smart, green technologies that deliver a better world. Having Going Green as one of our corporate values has led to the following changes in our business: • The development of a strategy 2025 framework direction which has zero harm and sustainability at its core; and • The introduction of emission reduction, energy efficiency and renewable energy targets to take us to 2025. It has also shaped the focus of our investments. We continue to invest in: • R&D for low carbon goods and services; • Energy efficiency and emission reduction projects such as the use of waste methane gas for steam production by AECI Property Services and the installation of a secondary catalyst at AECI Mining Explosives' nitric acid plants in Modderfontein; • New products such as SupPlant which is a sensor-based system that waters crops according to gathered data, while optimising water consumption and alerting farmers of the state of crops, soil, air, and irrigation in a field, vineyard, or orchard; and • New businesses such as our investment in Origin Materials, the world's leading carbon-negative materials company, since 2017.

C3.3

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Climate-related risks and opportunities have influenced our business strategy in relation to the products and services in the short, medium, and long term. Nowhere is this more evident than in the inclusion of Going Green as one of our corporate values. This value underpins all our business activities. More specifically, we commit to providing sustainable alternatives for our customers and developing and embracing smart, green technologies that deliver a better world. Some of the strides we have made to date include investments in: • Origin Materials, the world's leading carbon-negative materials company, since 2017; • SupPlant which is technology that uses artificial intelligence to improve crop health through, inter alia, efficient irrigation while increasing yields; and • Biocult which uses mycorrhizae to enhance plant nutrition, soil biology and soil chemistry. Application can improve soil carbon sequestration by up to 15% and the potential for this product to generate new revenue streams in the carbon market is being assessed. We also continue to develop new products and services to deliver Better Mining, Better Water, Better Food Systems and Better Chemistry. For example, AECI Water is collaborating with AECI Plant Health to explore how water treatment technologies can reduce the volume of water needed for irrigation purposes without compromising yields. A further collaboration project with AECI Food & Beverage is targeting water conservation opportunities in the dairy industry in the Western Cape.
Supply chain and/or value chain	Yes	Climate-related risks and opportunities have influenced our business strategy in relation to the value chain in the short, medium, and long term. For example: a) We identified a material risk relating to unstable electricity supply in South Africa. We acknowledge that this could be further aggravated by the impacts of climate change. As such, we are positioning ourselves to generate our own energy. For example, AECI Mining Explosives is registering as an IPP to enable the business to function off the grid. In addition, we have already committed to installing four solar plants at our South African operations. These will be pilot projects for our own energy consumption and will be ramped up if successful. AECI will increase its share in electricity from renewable sources by 8% off a baseline of 249 609 MWh. b) Our customers are impacted by climate change. In the reporting year, we identified a material risk relating to extreme or unpredictable weather events (failure to mitigate and adapt to the effects of climate change, leading to drought or floods, water shortages and reduced mining and agricultural output). Given this, we have adopted 'Going Green' as one of our corporate values which underpins all our business activities. In lines with this, we look to provide sustainable alternatives for our customers.
Investment in R&D	Yes	Climate-related risks and opportunities have influenced our business strategy in relation to investment in R&D in the short, medium, and long term. Our R&D expenditure is invested in driving innovation and growth to deliver Better Mining, Better Water, Better Food Systems and Better Chemistry in line with our Sustainability Framework. Supported by AECI.GO and the ongoing, Group-wide innovation drive, our teams explore new products, processes and technologies that can be scaled to deliver our purpose. Examples include: • Better Mining: Investment in the development of products that deliver better results in hot hole and reactive ground conditions, conversion to underground bulk emulsion systems and the in-house development of digitalised solutions; • Better Water: Investment in the development of new technologies in support of sustainable Better Water such as technologies that can reduce the volume of water needed for irrigation purposes without compromising yields; • Better Food Systems: Investment in solutions seek to better complement the ecological processes important for sustainable agriculture such as the use of mycorrhizae by Biocult which can improve soil carbon sequestration by up to 15%; and • Better Chemistry: Investment in chemicals and ingredients that embody greener chemistry such as the development and supply of emulsifiers that enable a change from hot to cold production processes for lotions, creams, and hair products. Without the need for heating, manufacturers use less energy and have a lower carbon footprint.
Operations	Yes	Climate-related risks and opportunities have influenced our business strategy in relation to our operations in the short, medium, and long term. Nowhere is this more clearly seen than in the introduction of our target to reduce our Scope 1 and 2 emissions by 15% by 2025. Baselines were determined by analysing data over the period 2017 to 2019. Our Group companies are formulating projects to deliver on these improvement areas. Some projects have already been implemented. For example, use of waste methane gas for steam production by AECI Property Services and the installation of a secondary catalyst at AECI Mining Explosives' nitric acid plants in Modderfontein.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital Assets Liabilities	Climate-related risks and opportunities have influenced our financial planning. Examples of this are as follows: • Climate-related risks and opportunities impact on our revenue in the short, medium, and long term. As such, we consider them in revenue expectations. For example, our revenue expectations for AECI Mining include potential revenue from our focus on Better Mining. Better Mining means a safer and more efficient customer offering in terms of resource maximisation and costs. We already provide some of these solutions and continue to add more. In addition, our revenue expectations for AECI Water include potential revenue from new technologies in support of sustainable Better Water. Better Mining and Better Water are innovation and growth focus areas in our Sustainability Framework that resulted from our assessment of climate-related risks and opportunities. • Climate-related risks and opportunities also impact our operating costs in the short, medium, and long term. Examples include rising electricity and water prices and carbon pricing. An increase of 15% in the South African grid electricity price has been approved for 2021/22. Under the South African carbon tax, our direct carbon tax liability in 2020 is more than R7 million. • Mitigating climate-related risks and maximising climate-related opportunities requires capital investment so we consider these risks and opportunities in our capital allocation process. When deciding what projects to prioritise, consideration is given to the potential impact of the risks and opportunities in the short, medium, and long term. For example, we have invested in the installation of a secondary catalyst at AECI Mining Explosives' nitric acid plant in Modderfontein which is expected to reduce our emissions by approximately 45%. We are also using waste methane gas for steam production at one of our facilities. • Acquisitions and disposals are impacted by climate-related risks and opportunities. When evaluating potential acquisitions, consideration is given to the potential impact of these risks and opportunities in the short, medium, and long term. For example, concerns relating to climate change have already increased demand for low carbon goods and services and are expected to continue doing so. With this in mind, AECI invested in Origin Materials which focuses on replacing fossil fuel-based materials with sustainably produced materials.

C3.4a

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

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number
Abs 1

Year target was set
2020

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 1

Base year
2019

Covered emissions in base year (metric tons CO2e)
402531

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
100

Target year
2025

Targeted reduction from base year (%)
20

Covered emissions in target year (metric tons CO2e) [auto-calculated]
322024.8

Covered emissions in reporting year (metric tons CO2e)
334225

% of target achieved [auto-calculated]
84.8456392178491

Target status in reporting year
Underway

Is this a science-based target?
No, but we anticipate setting one in the next 2 years

Target ambition
<Not Applicable>

Please explain (including target coverage)
This is applicable to Scope 1 emissions at all our operations. The target is a reduction of 20% by 2025. Baselines were determined by analysing data over the period 2017 to 2019. The target has not yet been achieved, but continues to be pursued. We are working towards achieving the target by implementing a number of emission reduction projects. The target is not a science-based target. However, we will consider science-based targeting as we look to setting targets for 2030.

Target reference number
Abs 1

Year target was set
2020

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 2 (location-based)

Base year
2019

Covered emissions in base year (metric tons CO2e)
273548

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
100

Target year
2025

Targeted reduction from base year (%)
8

Covered emissions in target year (metric tons CO2e) [auto-calculated]
251664.16

Covered emissions in reporting year (metric tons CO2e)
241150

% of target achieved [auto-calculated]

148.045315630164

Target status in reporting year
Underway

Is this a science-based target?
No, but we anticipate setting one in the next 2 years

Target ambition
<Not Applicable>

Please explain (including target coverage)
This is applicable to the Scope 2 emissions (location-based) of all our operations. The target is a reduction of 8% by 2025. Baselines were determined by analysing data over the period 2017 to 2019. Although we achieved the target in 2020, the absolute target that needs to be achieved by 2025 is still being pursued. We acknowledge that some of the reduction in electricity consumption in 2020 was because of the impact of COVID-19 on operational activities and not only energy efficiency initiatives. As such, we will continue to implement energy efficiency projects to ensure that the target is realised in 2025. The target is not a science-based target. However, we will consider science-based targeting as we look to setting targets for 2030.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Target(s) to increase low-carbon energy consumption or production
Other climate-related target(s)

C4.2a

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

Target reference number
Low 1

Year target was set
2020

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

Target type: energy carrier
Electricity

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)
Please select

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
0

Target year
2025

Figure or percentage in target year
8

Figure or percentage in reporting year
0

% of target achieved [auto-calculated]
0

Target status in reporting year
Underway

Is this target part of an emissions target?
Yes, this is part of the target to reduce our Scope 1 and 2 emissions by 15%.

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain (including target coverage)
We aim to increase our consumption of renewable energy by 8% by 2025. Baselines were determined by analysing data over the period 2017 to 2019. Increasing our renewable energy consumption will decrease the amount of electricity we source from the national grid. As such, it will reduce our Scope 2 emissions. Our Scope 2 emissions are part of our target to reduce our Scope 1 and 2 emissions by 15% by 2025. We plan to produce some of this renewable energy ourselves and possibly source from third parties. Achievement of the target is being pursued. We are in the process of formulating projects that will realise the target.

C4.2b

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

Target reference number
Oth 1

Year target was set
2020

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

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

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year

249609

Target year
2025

Figure or percentage in target year
224047

Figure or percentage in reporting year
228065

% of target achieved [auto-calculated]
84.2813551365308

Target status in reporting year
Underway

Is this target part of an emissions target?
Yes, this is part of the target to reduce our Scope 1 and 2 emissions by 15%.

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain (including target coverage)
We are targeting an 8% reduction in electricity consumption by 2025. Baselines were determined by analysing data over the period 2017 to 2019. Achievement of the target is being pursued. We are in the process of formulating projects that will realise the target.

Target reference number
Oth 2

Year target was set
2020

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

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

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
2512755

Target year
2025

Figure or percentage in target year
1884566

Figure or percentage in reporting year
1872032

% of target achieved [auto-calculated]
101.995259388496

Target status in reporting year
Underway

Is this target part of an emissions target?
No

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain (including target coverage)
We are targeting a 25% reduction in potable water consumption by 2025. Baselines were determined by analysing data over the period 2017 to 2019. Although we achieved the target in 2020, the absolute target that needs to be achieved by 2025 is still being pursued. We acknowledge that some of the reduction in water consumption in 2020 was because of the impact of COVID-19 on operational activities and not only water efficiency initiatives. As such, we will continue to implement water efficiency projects to ensure that the target is realised in 2025.

Target reference number
Oth 3

Year target was set
2020

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

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

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
858731

Target year
2025

Figure or percentage in target year
686985

Figure or percentage in reporting year
619357

% of target achieved [auto-calculated]
139.376754043762

Target status in reporting year
Underway

Is this target part of an emissions target?
No

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain (including target coverage)
We are targeting a 20% reduction in effluent discharged to sea and sewer by 2025. Baselines were determined by analysing data over the period 2017 to 2019. Although we achieved the target in 2020, the absolute target that needs to be achieved by 2025 is still being pursued. We acknowledge that some of the reduction in effluent in 2020 was because of the impact of COVID-19 on operational activities and not only effluent reduction initiatives. As such, we will continue to implement effluent reduction projects to ensure that the target is realised in 2025.

C4.3

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

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	24	0
To be implemented*	2	22134
Implementation commenced*	7	333
Implemented*	7	4684
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
271

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
55086

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

252440

Payback period
4-10 years

Estimated lifetime of the initiative
Ongoing

Comment
AECI SANS Fibers in the USA reorganised its manufacturing and utility assets to improve energy efficiency. This included shutting down DrawTwist Assets and associated HVAC, including chillers and cooling towers etc. At this stage, the investment is provided for one part of this project

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Initiative category & Initiative type

Low-carbon energy generation	Other, please specify (Fuel switch)

Estimated annual CO2e savings (metric tonnes CO2e)
1968

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
18000000

Investment required (unit currency – as specified in C0.4)
16000000

Payback period
<1 year

Estimated lifetime of the initiative
Ongoing

Comment
This pertains to the project implemented by AECI Property Services to generate steam from biogas. The project displaced natural gas. The GHG emission reductions are reflected as the emissions avoided from natural gas not consumed.

Initiative category & Initiative type

Energy efficiency in buildings	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
42

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
300480

Investment required (unit currency – as specified in C0.4)
35682

Payback period
<1 year

Estimated lifetime of the initiative
Ongoing

Comment
AECI Schirm adapted control of its lighting through the installation of decentralised circuits to reduce electricity consumption.

Initiative category & Initiative type

Energy efficiency in production processes	Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)
333

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
37500

Investment required (unit currency – as specified in C0.4)
2817000

Payback period
>25 years

Estimated lifetime of the initiative
Ongoing

Comment
AECI Schirm replaced an old compressor with two controlled compressors to reduce electricity consumption. The savings are estimated at 1% of AECI Schirm's Scope 2 emissions.

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Training & Awareness creation)

Estimated annual CO2e savings (metric tonnes CO2e)
333

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
37500

Investment required (unit currency – as specified in C0.4)
10000

Payback period
<1 year

Estimated lifetime of the initiative
Ongoing

Comment
AECI Schirm trained operating personnel to optimise equipment use. For example, shutting down the compressor when not in use. The savings are estimated at 1% of AECI Schirm's Scope 2 emissions.

Initiative category & Initiative type

Low-carbon energy consumption	Other, please specify (Fuel switch)

Estimated annual CO2e savings (metric tonnes CO2e)
1632

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
355000

Investment required (unit currency – as specified in C0.4)
4092498

Payback period
11-15 years

Estimated lifetime of the initiative
Ongoing

Comment
AECI Much Asphalt used gas as an alternative fuel source to heavy fuel oil.

Initiative category & Initiative type

Energy efficiency in buildings	Insulation

Estimated annual CO2e savings (metric tonnes CO2e)
105

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

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

125826

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

Payback period
Please select

Estimated lifetime of the initiative
Ongoing

Comment
AECI Schirm reduced its natural gas consumption by installing a new insulated roof and insulating part of another two roofs.

C4.3c

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

Method	Comment
Financial optimization calculations	Under the Going Green programme umbrella, several resource efficiency assessments were conducted at Group sites and potential projects for savings were identified. Business cases have been developed for them and will drive the selection and prioritisation of initiatives for implementation. The business cases include calculation of financial indicators such as net present value (NPV), return on investment (ROI), payback periods and others.
Employee engagement	All employees are encouraged to participate in the Going Green programme by identifying ways in which AECI's environmental impact can be minimised.
Compliance with regulatory requirements/standards	The need for compliance drives investment in emission reduction activities. For example, the South African Department of Forestry, Fisheries and Environment declared GHG emissions as priority pollutants, requiring certain companies to put in place five-year plans to reduce these emissions. At the time, AECI prepared and submitted its plan. It continues to implement emission reduction activities in line with the plan.
Internal price on carbon	With the introduction of the carbon tax in South Africa, we have implemented an internal price on carbon. This price is aligned with the tax rate in the carbon tax. Factoring this carbon price into the business case can increase the NPV and ROI and decrease payback periods for emission reduction projects.
Other (Targets)	We have introduced a number of targets, including targets to reduce our Scope 1 and 2 emissions and increase our consumption of renewable energy. The need to meet these targets drives investment in emission reduction initiatives.

C4.5

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

C4.5a

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

Level of aggregation
Group of products

Description of product/Group of products
Several Group businesses manufacture products that reduce their customers' emissions and/or improve their resilience. Examples include: • AECI Mining is focused on driving Better Mining. Better Mining means a safer and more efficient customer offering in terms of resource maximisation and costs. The focus on Better Mining has led to the development of products that deliver better results in hot hole and reactive ground conditions, conversion to underground bulk emulsion systems and the in-house development of digitalised solutions. • AECI Plant Health's NuWay® methodology uses precision analysis, remote sensing, and tailored chemistry to address long-term soil health. This enhances agricultural output and delivers healthier crops. An example of the holistic NuWay® offering is Biocult which uses mycorrhizae to enhance plant nutrition, soil biology and soil chemistry. Application can also improve soil carbon sequestration by up to 15%. • AECI Water offers a range of water management solutions to customers. Energy efficiency is often built into these solutions. For example, AECI Water designed, built, installed, commissioned, and operates four desalination plants in the Western Cape. They are a sustainable and cost-effective solution for water-stressed environments. Given the high cost of energy associated with desalination, an Energy Recovery Device is incorporated into the design. This technology reduces power consumption in terms of kW/m3 by 30% – 50%, depending on the feed source of the water.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Internal company expertise)

% revenue from low carbon product(s) in the reporting year
5

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
5% of total revenue is estimated to have been generated through sales and application of low carbon products in 2020. Internal experts classified the products as low carbon and calculated the potential avoided emissions.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
356712

Comment
Scope 1 emissions reported here will be slightly different to those reported in our 2019 integrated report due to some adjustments made to activity data after the publication of the report.

Scope 2 (location-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
290624

Comment
Scope 2 emissions reported here will be slightly different to those reported in our 2019 integrated report due to some adjustments made to activity data after the publication of the report.

Scope 2 (market-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
290624

Comment
Scope 2 emissions reported here will be slightly different to those reported in our 2019 integrated report due to some adjustments made to activity data after the publication of the integrated report. We have operations that purchase electricity from a specific supplier. As such, we have supplier-specific emission rates/regional or subnational grid average emission factors. For 2020, however, the value for Scope 2 emissions was calculated using the market-based approach was the same as the value for the Scope 2 emissions calculated using the location-based approach. The reason is that supplier-specific emission factors were used for electricity purchased when calculating the emissions using the location-based approach.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
334225

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.2

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

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment
We have operations that purchase electricity from a specific supplier. As such, we have supplier-specific emission rates/regional or subnational grid average emission factors. For 2020, however, the value for the Scope 2 emissions calculated using the market-based approach was the same as the value for the Scope 2 emissions calculated using the location-based approach. The reason for this is that supplier-specific emission factors were used for electricity purchased when calculating the emissions using the location-based approach.

C6.3

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

Reporting year

Scope 2, location-based
241150

Scope 2, market-based (if applicable)
241150

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?
No

C6.5

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

Purchased goods and services

Evaluation status
Relevant, calculated

Metric tonnes CO2e
224652

Emissions calculation methodology
For ammonia, GHG emissions were calculated using the IPCC 2006 Guidelines, Volume 3, Chapter 3. The calculation assumes conventional reforming using natural gas.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
This includes the GHG emissions associated with the production of ammonia for use by the Group in product manufacture.

Capital goods

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
AECI has not yet calculated the GHG emissions associated with the purchase of capital goods.

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

Evaluation status
Relevant, calculated

Metric tonnes CO2e
33632

Emissions calculation methodology
Fuel and electricity consumption values were multiplied by DEFRA GHG conversion factors. The GHG conversion factors for fuels were sourced from DEFRA's 2020 GHG conversion factors. The GHG conversion factors for transmission and distribution losses for electricity were sourced from DEFRA 2017 GHG conversion factors. The exception to this is electricity consumed in South Africa, which was multiplied by an emission factor obtained from Eskom's 2020 Integrated Annual Report.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
This includes well-to-tank GHG emission from fuels used by AECI and GHG emissions from transmission and distribution losses associated with the electricity consumed.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
407

Emissions calculation methodology
The distance travelled was multiplied by DEFRA 2020 GHG conversion factors.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
This includes the GHG emissions from the transport by rail of ammonia for use by the Group in product manufacture.

Waste generated in operations

Evaluation status
Relevant, calculated

Metric tonnes CO2e
6601

Emissions calculation methodology
Effluent and waste volumes were multiplied by DEFRA 2020 GHG conversion factors.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
This refers to GHG emissions from treatment and disposal of our effluent and waste.

Business travel

Evaluation status
Relevant, calculated

Metric tonnes CO2e
6175

Emissions calculation methodology
Kilometres travelled were multiplied by DEFRA 2020 GHG conversion factors.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
AECI Mining Chemicals, AECI Specialty Chemicals and AECI Much Asphalt reported business travel. It is estimated that this reporting covers approximately 75% of our total business travel.

Employee commuting

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Employees choose where to live in relation to their workplace. The emissions are not deemed to be relevant as they are most likely insignificant in relation to total emissions.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
AECI does not have upstream leased assets.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
22134

Emissions calculation methodology
Distance travelled was multiplied by DEFRA 2020 GHG conversion factors.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
This includes the GHG emissions from the transport of explosives to customers.

Processing of sold products

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
AECI has not yet calculated the GHG emissions associated with processing of sold products.

Use of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
364747

Emissions calculation methodology
The GHG emissions are calculated using the carbon content of our explosives and assuming 100% oxidation.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
This is our most significant source of Scope 3 emissions. It pertains to emissions from the use of explosives at our customers' operations. AECI Mining Explosives is focused on reducing these emissions through product changes.

End of life treatment of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
There are no emissions from the end-of-life treatment of explosives. one of our major products. Explosives are consumed in the reaction. Relevant Scope 3 emissions include use of sold products.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
AECI accounts for all emissions from downstream leased assets under its Scope 1 and 2 emissions. A good example of this is the emissions associated with provision of services by AECI Property Services at the Umbogintwini Industrial Complex in KwaZulu-Natal.

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
AECI does not have any franchises.

Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
AECI's investments are accounted for under its Scope 1 and 2 emissions.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
No other relevant upstream emissions have been identified.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
No other relevant downstream emissions have been identified.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
No

C6.10

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

Intensity figure
0.000024

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
575375

Metric denominator
unit total revenue

Metric denominator: Unit total
24111000000

Scope 2 figure used
Please select

% change from previous year
9

Direction of change
Decreased

Reason for change
Scope 1 and 2 emissions decreased by 11% and revenue decreased by 3% due the impact on people and the business of COVID-19 and the associated restrictions. Some of the decrease in Scope 1 and 2 emissions was partly due to emission reduction initiatives implemented by the Group in the year.

C7. Emissions breakdowns

C7.1

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

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	167189	IPCC Third Assessment Report (TAR - 100 year)
CH4	79	IPCC Third Assessment Report (TAR - 100 year)
N2O	159270	IPCC Third Assessment Report (TAR - 100 year)
HFCs	7686	IPCC Third Assessment Report (TAR - 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
South Africa	317005
Africa	8617
United States of America	2826
Indonesia	1922
Australia	1087
Germany	2767

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
AECI Mining	261109
AECI Water	237
AECI Agri Health	5299
AECI Chemicals	36564
AECI Property Services and Corporate	31016

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	303209	<Not Applicable>	This includes Scope 1 emissions from AECI Mining, AECI Water, AECI Plant Health and AECI Chemicals. It excludes Scope 1 emissions from AECI Property Services and Corporate.
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
South Africa	194452	195452	221620	0
Africa	4718	4718	4625	0
United States of America	12587	12587	39618	0
Indonesia	153	153	200	0
Australia	18	18	23	0
Germany	29223	29223	49127	0

C7.6

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

By business division

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
AECI Mining	144118	144118
AECI Water	2198	2198
AECI Plant Health	33255	33255
AECI Chemicals	57226	57226
AECI Property Services and Corporate	4353	4353

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	236797	236797	This includes Scope 2 emissions from AECI Mining, AECI Water, AECI Agri Health and AECI Chemicals. It excludes Scope 2 emissions from AECI Property Services and Corporate.
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C-CH7.8

(C-CH7.8) Disclose the percentage of your organization's Scope 3, Category 1 emissions by purchased chemical feedstock.

Purchased feedstock	Percentage of Scope 3, Category 1 tCO2e from purchased feedstock	Explain calculation methodology
Ammonia	100	The GHG emissions were calculated using the IPCC 2006 Guidelines, Volume 3, Chapter 3. The calculation assumes conventional reforming using natural gas.

C-CH7.8a

(C-CH7.8a) Disclose sales of products that are greenhouse gases.

	Sales, metric tons	Comment
Carbon dioxide (CO2)	0	N/A None of the products we sell are GHGs.
Methane (CH4)	0	None of the products we sell are GHGs.
Nitrous oxide (N2O)	0	None of the products we sell are GHGs.
Hydrofluorocarbons (HFC)	0	None of the products we sell are GHGs.
Perfluorocarbons (PFC)	0	None of the products we sell are GHGs.
Sulphur hexafluoride (SF6)	0	None of the products we sell are GHGs.
Nitrogen trifluoride (NF3)	0	None of the products we sell are GHGs.

C7.9

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

Decreased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	There were no changes to renewable energy consumption in the year.
Other emissions reduction activities	4684	Decreased	0.72	This relates to the decrease in GHG emissions realised as a result of implementation of emission reduction projects. The decrease was calculated as the emission reductions achieved divided by total Scope 1 and 2 emissions for AECI in 2019: % decrease = -4 684 tonnes CO2e / (356 712 tonnes CO2e + 290 624 tonnes CO2e)
Divestment	17353	Decreased	2.68	This relates to the decrease in GHG emissions from the sale of Crest Chemicals and the handover of management of SMSA to the joint venture partner. The decrease was calculated as the emission reductions from the non-control of these two entities divided by total Scope 1 and 2 emissions for AECI in 2019: % decrease = -17 353 tonnes CO2e / (356 712 tonnes CO2e + 290 624 tonnes CO2e)
Acquisitions	0	No change	0	There were no changes in greenhouse gas emissions as a result of acquisitions in the reporting year.
Mergers	0	No change	0	There were no changes in greenhouse gas emissions as a result of mergers in the reporting year.
Change in output	49924	Decreased	7.71	This decrease resulted from the effects of COVID-19 and the associated restrictions. The decrease was calculated as the difference in GHG emissions resulting from production changes between the 2019 and 2020 divided by total Scope 1 and 2 emissions for AECI in 2019: % decrease = -49 924 tonnes CO2e / (356 712 tonnes CO2e + 290 624 tonnes CO2e)
Change in methodology	0	No change	0	There were no changes in greenhouse gas emissions as a result of changes in methodology in the reporting year.
Change in boundary	0	No change	0	There were no changes in greenhouse gas emissions as a result of changes in boundary in the reporting year.
Change in physical operating conditions	0	No change	0	There were no changes in greenhouse gas emissions as a result of changes in physical operating conditions in the reporting year.
Unidentified	0	No change	0	There were no unidentified changes in the reporting year.
Other	0	No change	0	There were no other changes in the reporting year.

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	605063	605063
Consumption of purchased or acquired electricity	<Not Applicable>	0	228065	228065
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	87150	87150
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	0	920278	920278

C-CH8.2a

(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	477578
Consumption of purchased or acquired electricity	<Not Applicable>	223798
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	87150
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0
Total energy consumption	<Not Applicable>	788526

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)
Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
252432

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam

252432

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0951

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)
Natural Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
83898

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
75434

MWh fuel consumed for self-generation of steam
8464

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0562

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)
Methane

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
90749

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
90749

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.049

Unit
metric tons CO2 per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)

Diesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
91054

MWh fuel consumed for self-generation of electricity
45480

MWh fuel consumed for self-generation of heat
45574

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0743

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)
Petrol

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
680

MWh fuel consumed for self-generation of electricity
5

MWh fuel consumed for self-generation of heat
675

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0695

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
656

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
656

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0632

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)
Other, please specify (Heavy Fuel Oil)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
77687

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
77687

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0776

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)
Other, please specify (Paraffin)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
6685

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
6685

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0721

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

Fuels (excluding feedstocks)
Acetylene

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
4

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
4

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0034

Unit
metric tons CO2e per GJ

Emissions factor source
Mass Balance

Comment

Fuels (excluding feedstocks)
Other, please specify (Light Boiler Fuel)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1220

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
1220

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Emission factor
0.0721

Unit
metric tons CO2e per GJ

Emissions factor source
IPCC 2006 Guidelines

Comment

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	18194	18194	0	0
Heat	186043	186043	0	0
Steam	299935	207850	0	0
Cooling				

C-CH8.2d

(C-CH8.2d) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity	18194	18194
Heat	185693	185693
Steam	141679	107991
Cooling		

C8.2e

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

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?

No

C9. Additional metrics

C9.1

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

C-CH9.3a

(C-CH9.3a) Provide details on your organization's chemical products.

Output product

Nitric acid

Production (metric tons)

243096

Capacity (metric tons)

306000

Direct emissions intensity (metric tons CO2e per metric ton of product)

0.94

Electricity intensity (MWh per metric ton of product)

0.25

Steam intensity (MWh per metric ton of product)

0.57

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

We have reported on nitric acid as this production activity is the most GHG emissions-intensive of all our products. Please note that data for electricity and steam consumed used in the calculation were for the entire site (i.e., AECI Mining Explosives, Modderfontein) and not only for the nitric acid production process. It is challenging to isolate data on the steam and electricity used by this facility from that used for other chemicals produced on-site.

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

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	

C-CH9.6a

(C-CH9.6a) Provide details of your organization's investments in low-carbon R&D for chemical production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Other, please specify (Products that reduce customers' GHG emissions, improve their resilience in the face of climate change impacts and sequester carbon)	Large scale commercial deployment	81 - 100%	65000000	Our R&D expenditure is invested in driving innovation and growth to deliver Better Mining, Better Water, Better Food Systems and Better Chemistry in line with our Sustainability Framework. Supported by AECI.GO and the ongoing, Group-wide innovation drive, our teams explore new products, processes and technologies that can be scaled to deliver our purpose. Examples relating to chemical production activities include: • Better Mining: Investment in the development of products that deliver better results in hot hole and reactive ground conditions, conversion to underground bulk emulsion systems and the in-house development of digitalised solutions; • Better Water: Investment in the development of new technologies in support of sustainable Better Water such as technologies that can reduce the volume of water needed for irrigation purposes without compromising yields; • Better Food Systems: Investment in solutions seek to better complement the ecological processes important for sustainable agriculture such as the use of mycorrhizae by Biocult which can improve soil carbon sequestration by up to 15%; and • Better Chemistry: Investment in chemicals and ingredients that embody greener chemistry such as the development and supply of emulsifiers that enable a change from hot to cold production processes for lotions, creams, and hair products. Without the need for heating, manufacturers use less energy and have a lower carbon footprint. In addition to our R&D investment, we also look to become involved in chemical production companies that are developing low carbon products. For example, we invested R66.55 million in Origin Materials, a start-up based in California, USA. This company has pioneered the development of bio-based chemicals to replace fossil fuel-based chemicals.

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

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

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf

Page/ section reference
Pages 1,2 & 3

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1b

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

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf

Page/ section reference
Pages 1,2&3

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

Scope 2 approach
Scope 2 market-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf

Page/ section reference
Pages 1,2&3

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.2

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

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C7. Emissions breakdown	Year on year change in emissions (Scope 1)	ISAE 3000	Third-party assurance is in place for Scope 1 emissions and the comparison to last year. See assurance statement for more detail AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf
C7. Emissions breakdown	Year on year change in emissions (Scope 2)	ISAE 3000	Third-party assurance is in place for Scope 2 emissions and the comparison to last year. See assurance statement for more detail AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf
C7. Emissions breakdown	Year on year change in emissions (Scope 1 and 2)	ISAE 3000	Third-party assurance is in place our Scope 1 and 2 emissions and the comparison to last year. See assurance statement for more detail AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf
C7. Emissions breakdown	Change in Scope 1 emissions against a base year (not target related)	ISAE 3000	Third-party assurance is in place for our Scope 1 emissions and the comparison to last year. See assurance statement for more detail AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf
C7. Emissions breakdown	Change in Scope 2 emissions against a base year (not target related)	ISAE 3000	Third-party assurance is in place for Scope 2 emissions and the comparison to last year. See assurance statement for more detail AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf
C7. Emissions breakdown	Energy consumption	ISAE 3000	Third-party assurance is in place for total electricity and total energy use and the comparison to last year. See assurance statement for more detail AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf

AECI Integrated Report ISAE 3000 (Revised) - Unqualified Conclusion.pdf

C11. Carbon pricing

C11.1

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

C11.1a

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

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

South Africa carbon tax

Period start date
January 1 2020

Period end date
December 31 2020

% of total Scope 1 emissions covered by tax
92

Total cost of tax paid
7176680

Comment
Payment is due in July 2021 for the carbon tax liability from 1 January 2020 to 31 December 2020.

C11.1d

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

To ensure compliance, we require adherence to the SHEQ Policy and the Sustainability Strategy and Framework by all Group businesses. AECI also has a Compliance Framework and various related processes in place. These are monitored by the Board and its Committees to ensure ongoing improvements. The compliance universe is refined continually, considering all related developments in the regulatory context. This includes environmental regulation. The Board, via the Risk Committee, has implemented risk mitigations and controls for significant compliance risk areas. A balanced approach to compliance is adopted and considers the Company's obligations, rights and related costs.

Where regulation impacts on several Group businesses, management at Head Office will assist the businesses to understand the regulation and its impact. Specialists may be appointed to assist, where necessary. For example, in terms of the South African carbon tax, the Group Environmental Specialist, with other external carbon tax specialists, assisted the businesses affected to understand if they were liable for the carbon tax. Management at Head Office also assisted those that are liable to license for the carbon tax with the South African Revenue Service and to complete the necessary carbon tax returns.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3

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

C11.3a

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

Objective for implementing an internal carbon price
Navigate GHG regulations
Drive energy efficiency
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope
Scope 1
Scope 2

Application
The price is applied to all businesses in South Africa. It is applied when making investment decisions.

Actual price(s) used (Currency /metric ton)
127

Variance of price(s) used
The price is aligned with the South African carbon tax. As such, it will increase by Consumer Price Inflation (CPI) plus 2% each year to end-2022. Thereafter, it will increase at CPI.

Type of internal carbon price
Shadow price

Impact & implication
The internal carbon price is applied when making investment decisions. Our businesses include this price in the business case for emission reduction and energy efficiency initiatives. We include this price when considering possible acquisitions.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Please select

Details of engagement
<Not Applicable>

% of suppliers by number
50

% total procurement spend (direct and indirect)
50

% of supplier-related Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
We have engaged with some of our suppliers. We estimate this engagement has included 50% of our total number of suppliers and represents 50% of our total procurement spend. We engage with our suppliers to: • Develop low carbon products and services; and • Understand climate-related supply chain risks. This engagement takes place in the normal course of business in the form of meetings, written correspondence, and calls.

Impact of engagement, including measures of success
We measure the success of our engagement by whether our suppliers assist us in developing new products and services that reduce our customers' GHG emissions or enhance their resilience to the impact of climate change. As an example, during the drought in the Western Cape in South Africa, AECI Water identified an opportunity to offer desalination plants to its customers. It engaged with suppliers to source the technology to enable it to present the offering to its customers. Since start-up in April 2018, AECI Water's desalination plants on the west coast of South Africa have produced more than 1 500 million litres of water.

Comment
We have not included GHG emissions associated with all suppliers in the Scope 3 emissions disclosed.

C12.1b

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

Type of engagement
Collaboration & innovation

Details of engagement
Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number
100

% of customer - related Scope 3 emissions as reported in C6.5
0

Portfolio coverage (total or outstanding)
<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement
We collaborate with all customers (100%) to develop new products and services that reduce their own GHG emissions or enhance their resilience to the impact of climate change. This is in line with our corporate value of Going Green. Areas for collaboration are identified through ongoing interaction with customers. This interaction occurs in the normal course of business in the form of meetings, written correspondence, and calls. We have not included GHG emissions associated with the use of our products by customers in the Scope 3 emissions.

Impact of engagement, including measures of success
We measure success by whether we are successful in developing new products and services that adequately address challenges experienced by customers. Examples of products and services developed are as follows: • AECI Water collaborated with customers to treat wastewater for reuse. It also installed desalination plants to assist its customers to alleviate pressure from municipal supply. Given the high cost of energy associated with desalination, an Energy Recovery Device is incorporated into the design. This technology reduces power consumption in terms of kW/m3 by 30% – 50%, depending on the feed source of the water. • AECI Plant Health works with customers implement its NuWay® methodology which uses precision analysis, remote sensing, and tailored chemistry to address long-term soil health. Its methodology enhances agricultural output and delivers healthier crops. An example of the holistic NuWay® offering is Biocult which uses mycorrhizae to enhance plant nutrition, soil biology and soil chemistry. Application can improve soil carbon sequestration by up to 15%. • AECI Chemicals is involved in developing and supplying emulsifiers that enable a change from hot to cold production processes for lotions, creams, and hair products. Without the need for heating, manufacturers use less energy and have a lower carbon footprint. We also measure success by sales of new products and services. 5% of total revenue is estimated to have been generated through sales and application of low carbon products in 2020.

C12.1d

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

AECI engages with a broad spectrum of stakeholders. Key stakeholders include shareholders and funders, employees, trade unions/other representative bodies, suppliers, government and regulators, customers and communities and civil society. All engagements are viewed as being significant. Our engagement with government and communities is discussed below:

Government: Legal compliance is of utmost importance to AECI and, as such, engaging with relevant authorities is a business imperative. Such engagement may range from advocacy initiatives associated with the development of legislation and standards, to cooperative work with those regulators who have the responsibility of governing the Group's activities through the application of these laws and standards. Engagement typically takes place in meetings or through the provision of written commentary on policies and regulations. We also engage with government through CAIA, the industry association for the chemicals industry. The success of engagement is measured through:

· Our understanding of the regulations, our preparedness to comply and our compliance with the regulations;

· The consideration that government gives to feedback on various pieces of legislation; and

· The feedback received from government. In 2019, for example, we received an award from the South African Department of Forestry, Fisheries and Environment for our contribution to executing the intent of South Africa's National Environmental Management Waste Act (2008).

Communities: We engage with communities neighbouring our operations on climate-related issues. Engagement is typically through meetings with community members. At Modderfontein and Chloorkop, in Gauteng, several Group businesses play active roles in a Community Awareness and Emergency Response Committee. At the Umbogintwini Industrial Complex, and under the auspices of the Umbogintwini Industrial Association, issue-specific stakeholder and community liaison forums deal with water quality, air emissions and other matters of interest and/or concern to communities.

Engagement with communities is also through organised projects and programmes. We participate in various community-related projects. AECI supported the Oliver's Village with finance to establish community enterprises, food gardens, a soup kitchen, and a bakery. The bakery and gardens are income-generating, empowering members to provide vegetables and bread to the kitchen which feeds up to 300 people a day. The ovens are powered by biogas, a local renewable energy source generated through the safe and effective capture of gases from the Village's sewage system.

Success is typically measured by whether the communities are comfortable with the actions we take to minimise our impact on the environment. Success is also measured by participation by community members in meetings, projects, and programmes. We strive to establish constructive relationships with these stakeholders through regular engagement and by addressing their concerns where possible.

All engagement by AECI employees is subject to the Group's Code of Ethics and Business Conduct as approved by the AECI Board. This Code is designed to provide clear guidelines for engaging with all stakeholders in an open and honest manner.

C12.3

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

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon tax	Oppose	Engagement on the proposed South African carbon tax is via correspondence and meetings with CAIA.	The South African carbon tax was introduced from June 2019. Although AECI acknowledges the need to reduce emissions and is actively engaged in reducing its emissions and those of its customers, AECI did have some concerns. AECI was concerned that the introduction of a carbon tax would increase the existing onerous legislative burden on companies operating in South Africa who were and still are voluntarily reducing their GHG emissions. AECI was also concerned about the timing of the introduction of the tax and its impact on an already struggling economy. We proposed that, if a carbon tax were to be implemented, the way in which companies are benchmarked under the carbon tax should change. The way in which benchmarking is currently structured is not feasible as there are only a few companies that fall within a specific sector. This elevates the risk of market-sensitive information being shared with competitors. As an alternative, AECI proposed that companies who can show that they have undertaken acceptable emissions mitigation activities should be exempt from the tax.
Mandatory carbon reporting	Support with minor exceptions	Engagement on mandatory reporting of GHG emissions in South Africa is via correspondence and meetings with both CAIA and the South African Department of Forestry, Fisheries and Environment	This concerns the mandatory reporting of GHG emissions in South Africa that was introduced in 2017. AECI has and will continue to report its GHG emissions in the public domain. As such, AECI was not opposed to the introduction of mandatory reporting. We have registered and continue to submit our GHG emissions to the South African Department of Forestry, Fisheries and Environment. However, there were and still are some concerns regarding the boundaries, thresholds, and the processes for reporting. For example, current reporting of GHG emissions takes place through the National Atmospheric Emissions Inventory System (NAEIS) and the South African GHG Emissions Reporting System (SAGERS). We propose that the two systems be integrated/aligned. We also propose that reporting be at legal entity-level to align with the South African carbon tax.
Cap and trade	Support with major exceptions	Engagement on carbon budgets in South Africa is via correspondence and meetings with both CAIA and the South African Department of Forestry, Fisheries and Environment	This concerns carbon budgets in South Africa. AECI has been engaging with the South African Department of Forestry, Fisheries and Environment on the first phase of the carbon budgeting process, which is voluntary and runs to the end of 2022. Whilst AECI is committed to reducing its GHG emissions and has made great strides in this regard, we are concerned about the risk of market-sensitive information being shared with competitors, the setting of the budget and the introduction of penalties for exceeding an allocated budget. We propose that there be alignment between the various policy instruments that have been proposed or implemented by national government. We are of the opinion that the carbon budgets and carbon tax need to be aligned so that a company is only taxed for emissions exceeding the allocated budget.

C12.3b

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

Yes

C12.3c

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

Trade association

Chemical and Allied Industries Association (CAIA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

AECI is a founder member of CAIA and its Chief Executives is a Board member. Members of CAIA seek to engage constructively with government on the issues at hand to reach an acceptable outcome for industry. It must be acknowledged that an acceptable outcome may be a compromise. For the members, it is important that there be acknowledgement by government on the voluntary investments made by businesses towards mitigating emissions and the associated impacts of climate change. It is also important that businesses' concerns with regards to existing and pending regulation be acknowledged. Reduction targets should be achievable with acceptable risk and levels of investment. Unachievable emission reduction targets place industry at significant risk of tax liability, further regulatory and economic action, loss of competitiveness, as well as reputational damage. Constructive engagements must acknowledge that achievements by businesses in reducing their emissions profiles have been because of responsible self-regulation through the Responsible Care initiative to which signatories remain committed. Market forces should also be recognised as playing an important and increasing role in placing pressure on companies to reduce emissions.

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

Our position is aligned with CAIA's position. We actively participate in meetings held by this industry association to ensure this. It is often through CAIA or in conjunction with CAIA that we engage with policy makers. This is through formal meetings, dialogues, written submissions and comments on proposed policies, participation in sector specific workshops etc.

C12.3f

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

AECI ensures that all its direct and indirect activities that influence policy are consistent in terms of messaging through:

· Adherence to the SHEQ Policy and the Sustainability Strategy and Framework;

· Adherence to the Group's Code of Ethics and Business Conduct and associated guidelines;

· Central coordination of stakeholder engagement; and

· The introduction of programmes and targets to drive consistent messaging, such as the Going Green programme.

If any inconsistencies are identified, these inconsistencies are raised with the Risk Committee and the Social and Ethics Committee who then implement the required actions to address the inconsistencies, mitigate any impacts from these inconsistencies and put controls in place to ensure that they do not reoccur.

C12.4

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

Publication
In mainstream reports

Status
Complete

Attach the document
AECI2020integratedreport.pdf

Page/Section reference
2, 7, 9, 10, 11, 13, 15, 16, 17, 22, 24, 28, 31, 32, 40, 41, 42, 78, 79

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment
This refers to the Integrated Annual Report.

Publication
In mainstream reports

Status
Complete

Attach the document
AECI+SD+2020+final+LR.pdf

Page/Section reference
2-4, 8-25, 36-37, 40-44

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment
This refers to the Sustainability Report.

C15. Signoff

C-FI

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

C15.1

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

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

SC. Supply chain module

SC0.0

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

AECI is a diversified group. It has regional and international businesses in Africa, Europe, Asia's South Eastern region, North America, South America and Australia. Products and services are provided to a broad spectrum of customers in the mining, water treatment, plant and animal health, food and beverage, infrastructure, and general industrial sectors.

The Group's vision is to deliver sustainable solutions for a better world through innovation and excellence founded on 'good chemistry.' In line with this vision, businesses are managed in four growth pillars. AECI Mining, AECI Water, AECI Agri Health and AECI Chemicals. These pillars are AECI's key reporting segments. More information is provided on each of these pillars below:

*· **AECI Mining:** The businesses in this segment provide a mine-to-mineral solution for the mining sector internationally. The offering includes commercial explosives, initiating systems, blasting services and surfactants for explosives manufacture right through the value chain to chemicals for ore beneficiation and tailings treatment.*

*· **AECI Water:** This business provides customers on the African continent with integrated water treatment solutions, process chemicals and equipment solutions for a diverse range of applications. These include, inter alia, public, and industrial water, desalination, and utilities.*

*· **AECI Agri Health:** Businesses in this segment manufacture and distribute crop protection products, plant nutrients, animal premixes, specialty animal health products and fine chemicals on the African continent, in Europe and in the USA.*

*· **AECI Chemicals:** Businesses in this segment supply raw materials and related services to a broad spectrum of customers in the food and beverage, manufacturing, infrastructure, and general industrial sectors. Their markets are mainly in South Africa and in other Southern African countries, except for AECI SANS Fibers which is based in the USA.*

AECI also has a property division, AECI Property Services & Corporate. It is mainly involved in property leasing and management in the office, industrial and retail sectors, and corporate centre functions including the treasury.

All business activities are underpinned by the Group's BIGGER values — of being Bold, Innovative, Going Green and being Engaged and Responsible.

Please note that, although we have a presence in 22 countries, we only report in this submission on those countries in which we have manufacturing operations.

SC0.1

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

	Annual Revenue
Row 1	24111000000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?
No

SC1.1

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

Requesting member
L'Oréal

Scope of emissions
Scope 1

Allocation level
Facility

Allocation level detail
The Industrial Chemical Facility in Chloorkop manufactures products for Loreal

Emissions in metric tonnes of CO2e
39

Uncertainty (±%)
5

Major sources of emissions
Natural gas, diesel and petrol

Verified
Yes

Allocation method
Other, please specify (Allocation based on the volume produced for Loreal)

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
We identified all sources of fuel used for heating and calculated the emissions for Loreal using IPCC factors and the allocation was then calculated base on the volume produced for Loreal vs the total production.

Requesting member
L'Oréal

Scope of emissions
Scope 2

Allocation level
Facility

Allocation level detail
The Industrial Chemical Facility in Chloorkop manufactures products for Loreal

Emissions in metric tonnes of CO2e
198

Uncertainty (±%)
5

Major sources of emissions
The only source of GHG emissions is electricity which is purchased from Eskom. A grid emission factor is used to calculate the emissions.

Verified
Yes

Allocation method
Other, please specify (Allocation based on the volume produced for Loreal)

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The only source of GHG emissions is electricity which is purchased from Eskom. A grid emission factor is used to calculate the emissions.

Requesting member
Bayer AG

Scope of emissions
Scope 1

Allocation level
Business unit (subsidiary company)

Allocation level detail
AECI Schirm manufactures products for Bayer

Emissions in metric tonnes of CO2e
78.31

Uncertainty (±%)
5

Major sources of emissions
Natural gas, Diesel, Petrol

Verified
No

Allocation method
Other, please specify (Allocation based on volume of products sold)

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
We identified all sources of fuel used for heating and calculated the emissions for Bayer using IPCC factors and the allocation was then calculated base on the volume produced for Bayer vs the total production per facility.

Requesting member
Bayer AG

Scope of emissions
Scope 2

Allocation level
Business unit (subsidiary company)

Allocation level detail
AECI Schirm manufactures products for Bayer

Emissions in metric tonnes of CO2e
163.18

Uncertainty (±%)
5

Major sources of emissions
Electricity and steam

Verified
No

Allocation method
Other, please specify (Allocation based on volume of products sold)

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
We identified the source of GHG emissions to be electricity and steam purchased.

SC1.2

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

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	AECI provides products and services to a wide range of customers due to the diversity of our business. It would make sense to allocate our emissions in terms of significance of emissions; i.e. reporting emissions relating to those operations emitting the highest tonnes of CO2 emissions.

SC1.4

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

SC1.4a

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

Emissions will be allocated to those customers associated with our operation that contribute to the most significant emissions. Materiality will be taken into account due to the broad diversity of our products.

SC2.1

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

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?
No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?
No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms