

# SUSTAINABILITY REPORT

FOR THE YEAR ENDED 31 DECEMBER 2022



**ONE AECI,**   
FOR A BETTER WORLD

*good chemistry*





## AECI is a diversified chemicals solutions company working to deliver sustainable solutions for a better world through innovation and excellence, founded on 'good chemistry'.

With a history dating back more than a century and from our headquarters in South Africa, we have grown internationally to more than **100 sites in 22 countries**. Wherever we operate, we are close to our customers.

Through our five distinct value-chain activities, we offer 12 different categories of products and services to six customer segments.

We organise ourselves into the following operating business segments – **AECI Mining**, **AECI Water**, **AECI Agri Health** and **AECI Chemicals**. In addition, we have a number of enabling functions, most notably, AECI Property Services portfolio office and manufacturing spaces.

We invest extensively in **research and development**, advanced laboratory and manufacturing plant and equipment and in the **skills** and knowledge of our expert people. We distribute our own and third-party products that minimise negative impact and instead create positive economic, social and environmental outcomes. We value **partnerships**.

### Our purpose

To deliver sustainable solutions for a better world through innovation and excellence, founded on 'good chemistry'. This is the purpose of **One AECI, for a better world** and drives everything we do.

### Our BIGGER values

- **BOLD**
- **INNOVATIVE**
- **GOING GREEN**
- Being **ENGAGED**
- Being **RESPONSIBLE**

### Leveraging momentum for sustainable growth

This sustainability report reflects the work we did in 2022 and continue to pursue in 2023.

We consider all 17 United Nations Sustainable Development Goals (SDGs), however, we place particular emphasis on the following:



### OUR SUITE OF ANNUAL REPORTS

**SR**

Sustainability report and supporting documents

**IR**

Integrated report

**AFS**

Annual financial statements

**GR**

Governance report, including King IV™ application statement

**RR**

Remuneration report

**TTR**

Tax transparency report

**LA**

Limited assurance statement on reported sustainability data

**AGM**

Notice of AGM and proxy form

These are available at [www.aeciworld.com](http://www.aeciworld.com)

Key features for 2022	3
From our interim CE	5
From our SES and SHE committees	7
Our strategic performance and outlook	10
Business pillars	11
Geographic presence	12
Engaging our stakeholders	13
Governance approach	14
The global perspective	17
Journey to sustainability	19
Sustainability strategy	21
Responsible operations	26
Climate response	35
Better Mining	38
Better Water	42
Better Food Systems	48
Better Chemistry	52
Passionate purpose-led people	55
Enterprise and supplier development	65
CSI	68

Appendix A – Sustainability-related performance data	77
Appendix B – ESG KPI definitions	79
Appendix C – External assurance statement	81
Appendix D – Glossary of terms	84
Appendix E – JSE Sustainability disclosure guidance metrics	*
Appendix F – JSE climate disclosure guidance metrics index	*
Appendix G – GRI content index	*
Corporate information	85

## NAVIGATING OUR REPORT



Read more on our website



Read more within our reporting suite

Throughout this report we use icons to reference our reporting suite ([page 1](#)).

\* Appendix E, F and G are separate documents



# One AECI, for a better world – key features for 2022

## SUSTAINABILITY AND ESG HIGHLIGHTS

### ALL ZERO MILESTONES ACHIEVED IN 2021 AND 2022

- 0 Fatalities
- 0 Life-altering injuries
- 0 Major or serious environmental incidents
- 0 Repeat major or serious incidents
- 0 SHE legal directives
- 0 Major process safety incidents
- 0 Major product transportation incidents

**LOWEST EVER TRIR 0.15**

**ZERO**

FATALITIES OR LIFE-ALTERING INJURIES

**40%**

REDUCTION IN RECORDABLE CASES

### KEY ESG PERFORMANCE HIGHLIGHTS/FOCUS AREAS

#### Progress in line with 2025 targets achieved for:

- Potable water consumption
- Scope 1 and 2 emissions
- Environmental incidents
- Leadership development
- Learnerships, internships, bursaries
- Corporate Social Investment (CSI)

#### Areas for improvement towards 2025:

- Effluent discharge volumes
- Electricity generated from renewables
- Gender equality
- Enterprise and Supplier Development (ESD) and preferential procurement

## ESG INTEGRATED INTO REMUNERATION

Five Environmental, Social and Governance (ESG) Key Performance Indicators (KPIs) are now included in the long-term incentive (LTI) schemes for all participants (including executives and senior managers).

## FINANCIAL PERFORMANCE

### REVENUE

▲ 37%

**R 35 583m**

### EBITDA

▲ 16%

**R 3 570m**

### CAPEX SPENT ON GROWTH

**R 952m**

61% of total R 1 552 million capex

### GEARING

**45%**

(2021: 24%)

## CORPORATE SOCIAL INVESTMENT

### OUR R 36.2M INVESTMENT IN 2022 INCLUDES:

- R 15.4m mandated spend (including value-in-kind) per the B-BBEE Codes of Practice in terms of the 1% NPAT for both the Construction Charter and Generic Codes;
- R 6.1m from our international entities; and
- R 14.7m disbursed by our community trusts.

## CARBON METRICS

### CARBON EMISSIONS

#### SCOPE 1

▲ UP 1%

#### SCOPE 2

▼ DOWN 4%

SCOPE 3 BASELINES CALCULATED

## GENDER METRICS

- Female representation at board and top management levels:
  - ▲ UP TO 40% (2021: 38%)
- Progress to be made in senior and middle management

## AWARDS

- |                          |  |
|--------------------------|--|
| AECl group               | <ul style="list-style-type: none"> <li>■ South African Top Employer for three consecutive years</li> <li>■ Winner: Gender Mainstreaming Awards: 2022 Gender Mainstreaming Champion: Southern Africa; Empowerment of Women in the Community; Investing in Young Women</li> <li>■ CSI Legacy Awards: 2023 Winner in the Best Corporate Category</li> </ul> |
| AECl Specialty Chemicals | <ul style="list-style-type: none"> <li>■ Chemical and Allied Industries Association Responsible Care® Initiative of the Year Award: Rework of Crude Tall Oil Rosin Sludge</li> </ul>   |

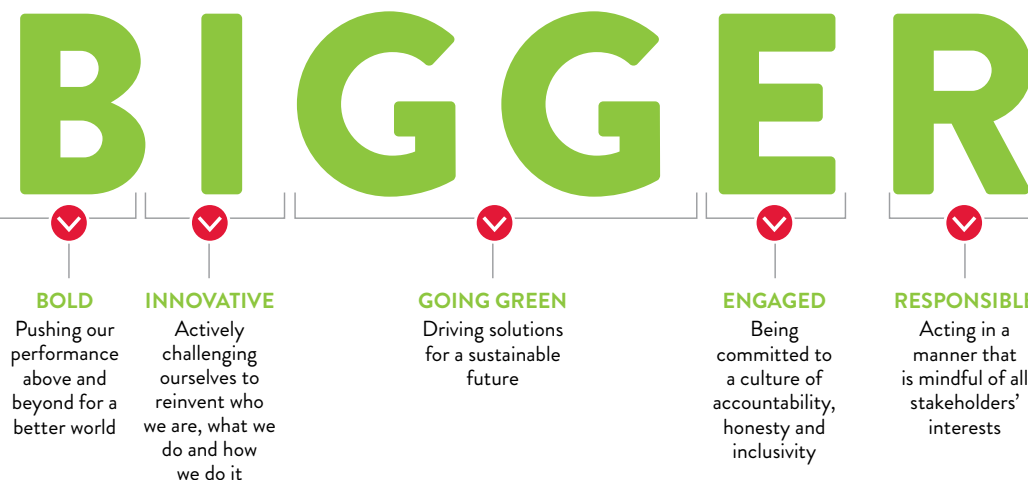
## ACCOLADES

- |                        |   |
|------------------------|---|
| AECl Property Services | <ul style="list-style-type: none"> <li>■ Ended 2022 having worked 3.75 million hours, or five years, without a recordable incident</li> </ul> |
|------------------------|---|

## CERTIFICATIONS

- |                        |   |
|------------------------|---|
| AECl Food & Beverage   | <ul style="list-style-type: none"> <li>■ FFSC 22000 (Food Safety System Certification) – Global Food Safety Initiative</li> <li>■ ISO 22000 – Food Safety Management Systems</li> </ul>   |
| AECl Plant Health      | <ul style="list-style-type: none"> <li>■ ISO 9001:2015 (quality management system)</li> <li>■ FAMI-QS v6 (certifies that ingredients are sourced from suppliers who enforce the correct risk management measures to ensure feed quality and safety and operate hygienic practices that meet regulatory requirements)</li> <li>■ Animal Feed Manufacturers Association (provides a minimum education, training and experience standard for individuals working in financial markets for member organisations).</li> <li>■ Certificate for a veterinary-approved establishment (in South Africa)</li> </ul> |
| AECl Property Services | <ul style="list-style-type: none"> <li>■ Maintained ISO 14001 (environment), ISO 45001 (safety) and ISO/IEC 17025:2015 (laboratory) certification</li> <li>■ Successful SANS 3000-1 rail safety audit by the Rail Safety Regulator</li> </ul>   |
| AECl Schirm Germany    | <ul style="list-style-type: none"> <li>■ EcoVadis Gold Medal Certified for Sustainability</li> </ul>  |

## Overview of AECl's BIGGER values



**AECl SCHIRM GERMANY:**  
Significant reduction in TRIR and safety incidents leading to 1 000 000 incident-free hours worked in 2022



Sam Coetzer  
**INTERIM CHIEF EXECUTIVE**

## From our interim CE

AECL has a demonstrated commitment of sustainability reporting spanning several decades. We have over this period kept abreast of developing frameworks and trends and have attempted to incorporate these into our business strategies. In recent years, ESG reporting has become more prominent with a wide range of stakeholders calling for greater transparency on disclosure of risk and impact and appropriate responses from companies. At AECL, we consider sustainability and related ESG disclosures to be a crucial reflection of our true performance and relationship with stakeholders.

### Dear stakeholders,

Our Zero Harm strategy (implemented in 2017) is fully embedded across the group and is a critical element of our culture. During 2022 we achieved the lowest TRIR since we started tracking this metric, as well as noticeable success in reducing our negative environmental impact.

A TRIR of 0.15 is a significant achievement and a testament to the progress we've made on our journey to Zero Harm.

Having said this, it is with deep sadness that we report that a contractor employee in Ghana sustained fatal injuries in a work-related incident in March 2023. Senior group employees have collaborated fully and closely with the relevant authorities and stakeholders to establish the root cause of the incident and any factors that contributed to it. The outcome of the investigation will guide our approach to any corrective actions required to mitigate the risk of a similar accident occurring in future. Our thoughts remain with our deceased colleague's family, friends and co-workers at this difficult time.

Whilst our occupational safety performance in 2022 was exceptional, this recent fatality is a reminder that AECL's focus on Zero Harm must be unwavering in every context and during every activity, without fail.

### Strengthening sustainability governance

During the year, we created a new position in our senior leadership structure. The role of head of sustainability and ESG is dedicated to the continued development and implementation of our group sustainability strategy. Kavita Pema, was appointed in late 2022 and took office in early 2023. She brings significant knowledge and experience in the field of sustainability (and its spectrum of components) as well as decades of experience in the industries in which we operate as well as in the public sector. Kavita has existing in-depth knowledge of our business, having spent many years with AECL earlier in her career. We are delighted to welcome her back into the AECL family.

At a business level, we continued to support the group's sustainability steering committee, which is chaired by Dean Mulqueeny who, among other duties, is a group executive committee member and group executive sponsor for sustainability. This steering committee comprises sustainability champions from across the group, including all subsidiary businesses globally, as well as champions from head office support functions. The committee has continued to evolve and improve its processes, with a view to enabling our intent to act as One AECL in a coordinated and aligned manner across all our businesses and our extensive geographic footprint.

To further strengthen our commitment to sustainability and enable the effective implementation of our growth strategy, the board approved amendments to the group's LTI scheme to include sustainability-related performance criteria into the vesting conditions. The LTI now includes a 25% weighting for sustainability-related performance, based on a selection of key sustainability metrics.

Furthermore, we have established a group-wide sustainability dashboard which enables the collation, analysis and reporting of our performance against ESG KPIs. The dashboard has been entrenched across AECL and is the foundation for internal reporting on these critical KPIs.





## Our sustainability performance

It is pleasing to share that, our sustainability performance (as measured against a selection of material ESG KPIs) continued to improve in 2022. For this, I thank all of AECL's people for their focus and effort.

Improvements were recorded in the following KPIs: potable water consumption, reductions in our Scope 2 emissions, fewer Moderate environmental incidents, a decrease in our TRIR, an increase in our leadership development activities and significant achievements in the corporate social investment arena. Additional work still remains to be done for improvements towards meeting our gender related targets as well as in our enterprise and supplier development initiatives.

Pleasingly, AECL was recognised as the Gender Mainstreaming Awards winner for 2022 across several categories. These awards are tangible evidence that we're making a real difference by empowering and uplifting women through our social responsibility programmes and the proactive management of our gender-related KPIs.

Our CSI achievements during the year were a particular highlight. Our programmes are making a significant positive and sustainable difference in the communities with whom we partner. The project with Oliver's Village in Benoni, South Africa, as an example, has become a flagship for us. In March, this successful partnership won AECL the Best Corporate category award at the CSI Legacy Awards.

We took further steps towards planning and executing on our commitment to achieve our 2050 Net Zero Goal. We have completed the first quantification of Scope 3 emissions. Given the scale and complexity of our group and its associated value chain, we are pleased to have completed this process in line with global best practice. We will continue to engage with stakeholders in our value chain to further embed this process so as to improve the accuracy of our Scope 3 quantification over time. The Scope 3 work to date will serve as a critical foundational element in our ability to consider and map out the path to our 2050 Net Zero Goal.

Our renewable energy plan continued to mature during 2022. We completed several project feasibility studies and design processes and initiated the construction of a number of solar energy installations at various locations, in line with our commitment to include renewable energy in our energy mix. We anticipate that our first renewable energy facility will come online in the first half of 2023.

## Looking ahead

Zero Harm and sustainability remains the first of three strategic platforms at the heart of our growth strategy which aims to deliver on our declared purpose – One AECL, for a better world.

We are confident that our efforts in 2023 will enable further improvements in our sustainability-related performance in parallel with our financial growth aspirations. We will be undertaking a review of our sustainability strategy to ensure that it remains fit for purpose and in line with global best practice in this rapidly evolving space.

We also intend to strengthen our social impact programmes across the business even further, in pursuit of an exponential increase in the positive impact we make.

In addition, we aim to make significant progress in the coming year in mapping out our route to achieving our 2050 Net Zero Goal.

I wish to thank all stakeholders who have walked the journey with us so far. We remain committed to delivering sustainable value to all of you in 2023 and future years.

**Sam Coetzer**  
Interim CE

26 April 2023







Fikile De Buck  
Chairman of the SESC



Steve Dawson  
Chairman of SHEC

## From our SES and SHE committees

Over the past year AECI has made significant strides on our journey to a better world, which is focussed on establishing a firm foundation for sustainability supported by a strong ambition to pursue our 2050 Net Zero Goal. It is undeniable that we are living in a world that is rapidly changing. As a business, we have made a deliberate decision to implement sound strategies and initiatives aimed at navigating the volatile geopolitical climate in which we operate. Added to this is the ever constant imperative to deal responsibly with the changing global climate and associated challenges, risks and opportunities.

### Dear stakeholders,

This report is provided by the AECI group social, ethics and sustainability Committee (SESC), and the AECI group safety, health and environment committee (SHEC). This report incorporates the requirements of Regulation 43 of the Companies Act. The committees executed their work in line with their terms of reference and their 2022 work plan.

### Committee mandates and transition

The committees' mandates are set out in their terms of reference approved by the board and reviewed annually. The primary objective is to assist the board with creating shared value in a sustainable manner through responsible business practices, taking into consideration the context of economic, societal and environmental factors across the company's operating markets. They also have

responsibility for reviewing those aspects of the integrated report <https://www.fta.aeciworld-online.com/reports/ar-2022/pdf/2022integratedreport.pdf> and the sustainability report related to their functions.

In accordance with their objectives, the committees focussed on the following issues:

- Safety, health and environment
- Social and economic development
- AECI's Broad-Based Black Economic Empowerment (B-BBEE) strategy
- Employment equity and transformation
- Diversity, equality and inclusion
- Good corporate citizenship
- Consumer relationships
- Compliance with AECI's Code of Ethics and Business Conduct
- Stakeholder relations
- Sustainability and ESG responsibilities

In May 2022 the board approved a revision of the social and ethics committee's terms of reference. The revision was required to reinforce alignment with AECI's growth strategy, which places sustainability and ESG issues at its centre. In recognition of this refocused mandate, the board established the separate SHEC in support of our core focus on zero harm. Additionally, the importance of sustainability in our strategic focus resulted in the social and ethics committee being renamed the social, ethics and sustainability committee (SES committee).

Abridged biographies of the members of both committees are published at: <https://www.aeciworld.com/leadership>. As a collective the committees were adequately skilled and all members possessed the appropriate financial and other relevant qualifications, skills and expertise to fulfil their responsibilities.

The full details can be found in the **IR** Integrated report and the **GR** Governance report.

From our SESC and SHEC committees CONTINUED

## Health and safety

We have remained steadfast in our commitment to zero-harm with strong oversight by the SHEC, and I am very pleased to report a record performance achieving world class results in safety management. **The group Total Recordable Injury Rate (TRIR) at the end of December 2022 was a remarkable 0.15 which is the lowest recorded to date.** As a group we are cognisant of the fact that this kind of performance is not achieved without great collaborative effort and commitment and are greatly appreciative of the contributions of all employees and contractors in this achievement. Furthermore, we remain humble and are ever mindful that the group cannot become complacent and needs to remain ever vigilant in the pursuit of Zero Harm. To this end, the board constituted the SHEC, focused on intensifying interventions to continually improve the overall safety performance in support of our drive towards Zero Harm.

Despite this performance and all the drives and initiatives, it is most regrettable to report that we unfortunately lost one of our contracted team members in March 2023. We are deeply saddened by the loss of our contracted employee, who lost his life whilst on duty in Ghana. Management responded responsibly to this unfortunate incident by attending the scene in person and provided support to his family, friends and colleagues. A comprehensive investigation, led by senior leaders, was conducted in order to understand the root causes and share lessons learnt to prevent a recurrence.

## Sustainability imperatives

AECI's commitment to sustainability has remained resolute in the drive to live the purpose of One AECI, for a better world aimed at delivering outcomes which balance ESG with economic prosperity. Our overall sustainability strategy will ensure that safety remains a priority, while broadening its scope to incorporate upholding human rights, responsible environmental management, addressing climate response and action, social responsibility and ensuring ethical and sound business practices. In this endeavour we will continue to ensure alignment with the 10 principles of the United Nations Global Compact. Additionally, we have committed to a 2050

Net Zero Goal and efforts are currently underway to clearly define this for each of the group's businesses and to formulate a robust and dynamic transition pathway for the achievement of this goal.

Impacts on communities, stakeholders and operational activities are key areas of oversight of the SESC. The group has prioritised sustainability reporting and ensures that the focus of this reporting is in response to the ever evolving needs of our stakeholders. In recent years, stakeholders have required greater transparency particularly in ESG reporting and creating and maintaining shared value.

Although AECI is headquartered in South Africa, our operations are spread across multiple geographies, industrial sectors and associated communities. This requires careful assessment and management of the geopolitical, economic and social nexus to ensure that there is uniformity in the sustainability imperatives while taking unique regional aspects into account. The SESC provides strategic direction and oversight to ensure that this alignment and balance is achieved.

## Climate response and performance

Reflecting on the performance of the past year, it is pleasing to note, the progress the group has made with climate response efforts and our commitment to the United Nations Sustainable Development Goals (SDGs). Targets for prioritised SDGs were formulated for the period up to 2025 and these are well on their way to being achieved. A strategic drive to review these targets, aligned with new priorities as they emerge, ensures that we remain agile in the evolving landscape. The review process will also include the setting of targets up to 2030 in alignment with our 2050 Net Zero Goal.

Improvements in recycling volumes for water and waste will receive greater focus in the next year with emphasis on efficiency projects, waste segregation and identification and implementation of effective re-use and recycling options.

## Our passionate people

AECI is committed to promoting equal opportunities and fair employment practices globally across all its businesses. It is very pleasing to note that significant progress has been made in the achievement of gender equality targets at board and top management level. The group is also keenly dedicated to the empowerment through education of employees and external stakeholders from underprivileged communities and remains committed to the provision of bursaries and internship opportunities to identified individuals. Holistic employee wellness remains a priority and we provided mental and psychological support to employees and their families during the year.

It is regrettable to report that the AECI Employee Share Trust (EST), which has been a contributor towards the overall black shareholding of AECI Limited since 2012 was not value accretive to beneficiaries and was therefore wound up.

The AECI executive and the board have committed to deliver some value to all eligible EST beneficiaries as an act of goodwill and remain committed to making meaningful progress towards advancing the winding up of the EST, at the same time staying on course in terms of driving our B-BBEE ownership goals.

In line with this, management and the board are working on the design and implementation of a new black ownership transaction that incorporates learnings and improvements from the previous transaction. These plans are subject to strict governance processes, including regulatory obligations as well as extensive consultation with and approvals by the AECI board and other stakeholders.



From our SESC and SHEC committees CONTINUED

AECl believes that being a responsible and contributing corporate citizen is a key component of our business strategy. Through our corporate social investment initiatives, the group is committed to the empowerment, development and growth of vulnerable communities. Our social responsibility 'footprint' investments are made in our areas of operation as well as those supported by our customers and other key stakeholders. We are especially proud to report that during the year we invested a total of R 36.2 million in socio-economic development.

As a South African-based operation, transformation remains a critical focus area for the committee and we track an ongoing effort to progress AECl's plans in terms of the requirements of the South African B-BBEE Act 53 of 2003. It is pleasing to report that the group retained its Level 3 B-BBEE status and concerted efforts to improve this status are underway. Furthermore, the board continued to focus on good governance with the guidance of the King IV principles.

## Inclusive stakeholder engagement

We are very aware that stakeholder engagement is vital to proactively consider the needs and desires of those who have a stake in our company. Effective engagement helps translate stakeholder needs into organisational goals and creates the basis of effective strategy development. Discovering the point of consensus or shared motivation allows decision making that ensures a meaningful outcome. We firmly believe that without internal alignment and stakeholder collaboration, it would not be possible to build an effective strategy or implement change.

Our stakeholder engagement process recognises that a shared understanding is essential to building a cohesive vision for the future. We are therefore focused on implementing an active consultation and engagement process and providing an open forum for discussion and debate. Our aim is to ensure alignment around a common vision and make recommendations on how the future ambition can be best achieved.

We were also supported by the development of a stakeholder management framework and with key appointments in these respective positions, see **IR** page 18.

## Ethics and risk management

The SESC and SHEC have a joint mandate from the board to oversee the management of applicable risk. The SHEC concentrates on the management and oversight of operational and process safety risk and environmental compliance, while the SESC mandate is to oversee the group's social, ethics and sustainability related risks.

Some of the remedial actions the committees oversee to minimise the potential impact on our business and stakeholders include:

- Ensuring safety and process safety risks are addressed in line with internationally recognised standards
- Ensuring responsible environmental management of our operational impacts
- Ensuring that management incorporates the increased sustainability and ESG requirements into the strategic ambitions of the business
- Providing oversight on the AECl ethics and value-based culture and a diversified leadership capacity to lead the organisation in a manner which is appropriate for the geographies in which we operate

Details of the integrated enterprise risk management approach can be found on **IR** page 22 of our integrated report.

## Focus areas looking ahead

As a group we are focused on continuous improvement and development in our efforts to remain relevant and agile. As such we have identified the following key aspects for attention in the coming year:

- Continued review and oversight of critical, safety, process safety and associated incidents and leading indicators in close collaboration with the SHEC
- Review the implementation of the sustainability framework and strategy, taking alignment with the six capitals and priority SDG review into account
- Review current targets and set additional targets, if deemed necessary
- Review the ESG dashboard to incorporate new indicators related to waste and Scope 3 emissions
- Clearly define our 2050 Net Zero Goal and the formulation of a transition pathway and action plan to support this goal
- Strengthen sustainability governance to build more robust and resilient structures geared towards responding to the constantly evolving ESG landscape
- Embed sustainability behaviour into the group's culture and business practices

## Committee assurance

We are satisfied that we have fulfilled our mandate as required by the Companies Act 71 of 2008 and that there were no instances of material non-compliance with applicable health and safety and ESG laws and regulations.

We extend our sincere appreciation to the AECl Team, members of the SHEC, SESC and other board colleagues, for their unwavering commitment to the work of the SESC and in fulfilment of responsive stakeholder engagement. Our appreciation also goes to Advocate Rams Ramashia, who resigned from the board in May 2022.



**Fikile De Buck**  
Chairman of the SESC

26 April 2023



**Steve Dawson**  
Chairman of SHEC

26 April 2023

# Our **strategic performance** and outlook

AECl's strength lies in our diversified product and service offering to customers across a variety of markets and in all the countries where we have a presence. This helps us deliver consistent value sustainably to all stakeholders while navigating the peaks and troughs of market cycles.

Our **purpose** is to continue to deliver sustainable solutions for a better world through innovation and excellence, founded on 'good chemistry'.

- We contribute to a better world through our commitment to prioritised UN SDGs, circular economy principles and the ESG agenda, where our sustainability framework is key

Our **ambition** is to lift overall business maturity and effectiveness and accelerate growth by leveraging AECl's strengths, seeking economies of scale and unlocking synergies. Key to this are:

- Strengthening our three strategic platforms, driving operational performance (asset efficiency) and financial performance (revenue and margin)
- Strengthening the capabilities of the centralised support functions and of each business pillar to unlock value and drive growth

Our **strategy framework** comprises three strategic platforms and six strategic themes. To ensure that we deliver on our strategy, the platforms have associated KPIs. The remuneration of executives is linked to performance against these. Each of the six strategic themes also has related KPIs, with remuneration at all levels of the organisation linked to delivery see the **RR**. The strategic themes are the levers we apply to achieve our ambition and 2025 goals. In 2022, we made significant progress on all the themes, except in the area of passionate purpose-led people, where there appears to be a lag.



With clarity about our financial plans, a clear set of initiatives aligned to the 1-3-6 strategy, as well as active tracking of performance, we are working to deliver on our purpose.

# Business pillars

## AECI® MINING



**AECI MINING** provides a mine-to-mineral solution for customers on a global scale.

The offering includes commercial explosives, initiating systems, blasting services and surfactants for explosives manufacture as well as chemicals for ore beneficiation and tailings treatment.

**ASPIRATION:** to become a recognised global mining explosives and ore-treatment solutions provider.

**CUSTOMERS:** the global mining sector.

## AECI® WATER

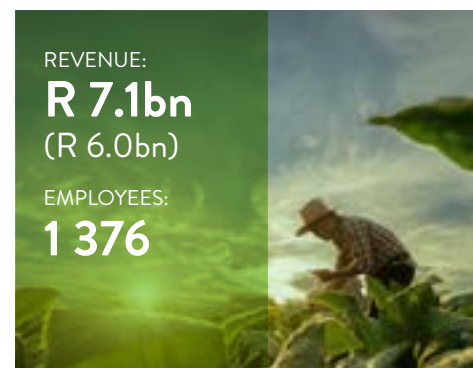


**AECI WATER** offers water treatment, process chemicals and equipment solutions to help customers optimise their water use and improve their processes.

**ASPIRATION:** to be Africa's premier holistic water and waste-to-value solutions provider in key geographies and high growth domains.

**CUSTOMERS:** the water treatment services market in Africa.

## AECI® AGRI HEALTH



**AECI AGRI HEALTH** gives farmers the means to improve crop yields and livestock health and to optimise their use of natural resources.

AECI Schirm is a contract manufacturer of fine and agricultural chemicals with operations in Germany and the USA.

**ASPIRATION:** to be the premier fine and agricultural chemicals solutions provider in chosen markets.

**CUSTOMERS:** the plant and animal health industries in Africa, Europe and the USA, and the fine and agricultural chemicals sector in Europe.

## AECI® CHEMICALS



**AECI CHEMICALS** supplies raw materials and related application know-how – including greener chemicals – to a broad range of customers.

**ASPIRATION:** to be a leading producer and preferred distributor for chemicals and leading applications know-how in sub-Saharan Africa.

**CUSTOMERS:** the manufacturing, food and beverage, road infrastructure and general industrial sectors, mainly in Southern Africa. AECI SANS Fibers targets manufacturers in the USA and elsewhere.

## AECI® PROPERTY SERVICES

REVENUE:  
**R 568m**

**AECI PROPERTY SERVICES AND CORPORATE** supports our delivery of better products and services. We lease space and provide management and services in the office, industrial and retail sectors. We also provide centralised functions – including treasury and finance; human capital; safety, sustainability and ESG, health and the environment; stakeholder relations; legal and company secretarial; risk and compliance; information technology; and strategy execution. They support the businesses in all pillars. This reporting segment has a total of 275 employees.

**CUSTOMERS:** 145 tenants (150).



# Geographic presence

**AECI is a diversified chemicals solutions company employing 7 168 people at more than 100 sites. We have a presence in 22 countries on six continents.**

Founded in 1896 to service South Africa's burgeoning gold and diamond mining industries, the company was formally established in 1924. AECI was listed on the Johannesburg Stock Exchange in 1966. At the end of 2022 we had a market capitalisation of R 9.2 billion (R 12.3 billion in 2021).

A mainstay of the economy in South Africa, over the years we have expanded our presence and evolved our product and service offering to a broad base of customers. Our operating businesses are structured into four key operating business segments – **AECI Mining**, **AECI Water**, **AECI Agri Health** and **AECI Chemicals**

Guided by the UN SDGs, we aim to ensure

- **Better Mining**
- **Better Water**
- **Better Food (and Agricultural) Systems**
- **Better Chemicals**

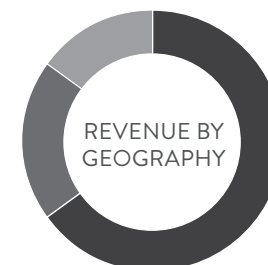
Together, as **One AECI** we work to deliver **sustainable solutions for a better world** through innovation and excellence, founded on 'good chemistry'.

## Our products and services

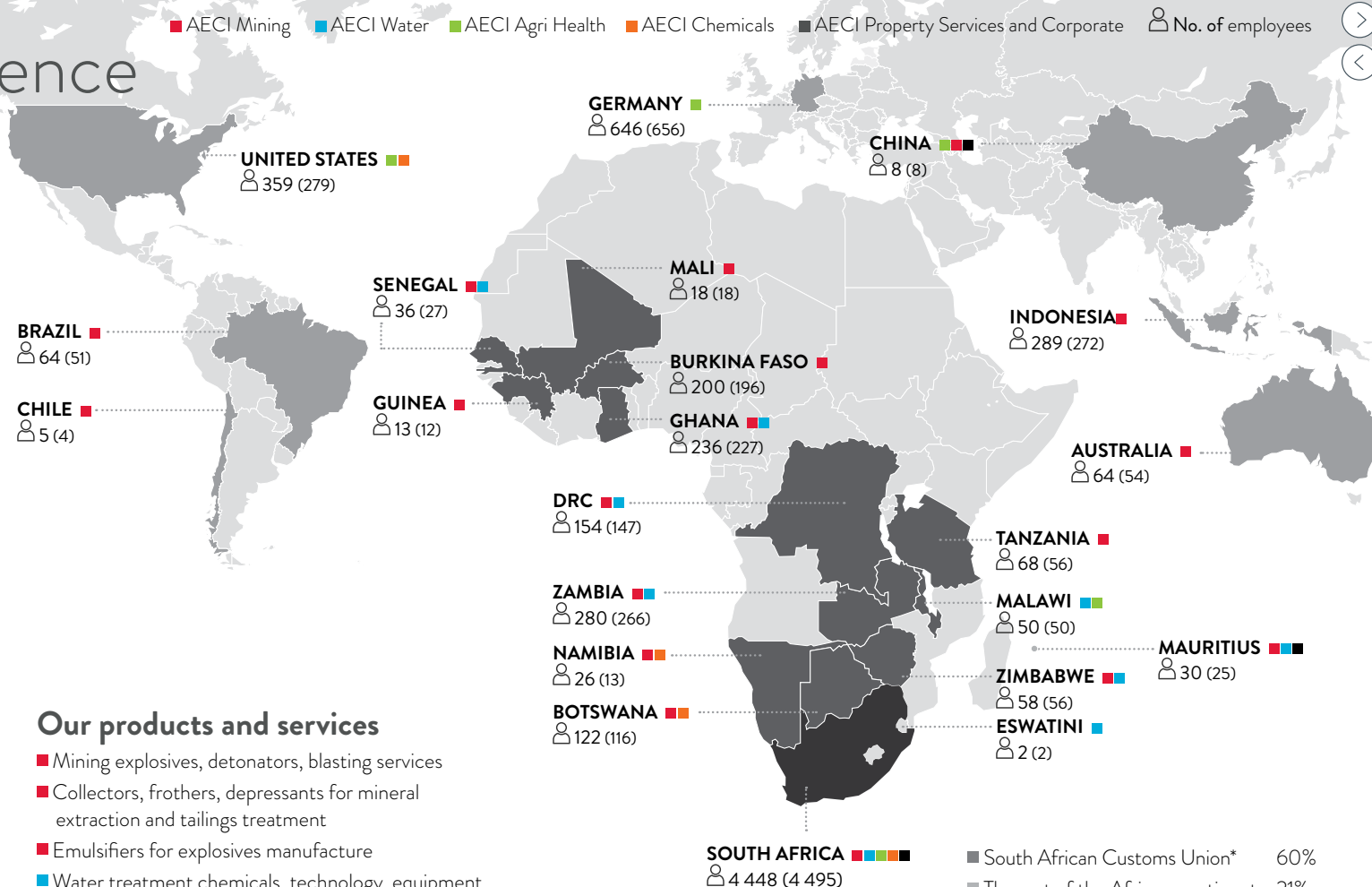
- Mining explosives, detonators, blasting services
- Collectors, frothers, depressants for mineral extraction and tailings treatment
- Emulsifiers for explosives manufacture
- Water treatment chemicals, technology, equipment and plant
- Bulk chemicals
- Blended chemical products
- Asphalt and bitumen for road construction
- Nylon and polyester fibres and threads
- Ingredients and commodities to the dairy, beverage, wine, bakery, health and nutrition industries
- Vitamin and mineral animal feed premixes
- Crop protection products and plant nutrients
- Property leasing and provision of utilities

## Our customer sectors

- Mining
- The public, industrial and mining water sectors
- Industrials and manufacturing
- Road infrastructure
- Food and beverage
- Agriculture
- Tenants and utilities users



Note: 2021 comparatives are in brackets  
\*Comprises South Africa, Botswana, Eswatini, Lesotho and Namibia







# Engaging our stakeholders

We rely on a wide range of stakeholders to create value. Proactive and regular engagement with all our stakeholders helps us identify and address material issues of interest or concern to them, as well as risks and opportunities.

Engagement informs our strategy development and delivery. One of our BIGGER values is to be responsible by acting in a manner that is mindful of all stakeholders’ interests. In the year we acknowledged that there was room to improve our stakeholder management structures and processes and embarked on a programme to achieve this.

Early in 2023 we formalised our group stakeholder management framework (SMF), seeking to have a seamless and uniform approach to engagement. The SMF will enable us to structure engagements to achieve our purpose. It will also provide the tools for us to assess and evaluate the effectiveness of the relationships we have and seek to foster with our stakeholders.

Preserving and enhancing stakeholder trust is critical to the value creation process and requires transparency and proactive stakeholder engagement. Our SMF outlines how we engage and collaborate with stakeholders to ensure that our critical relationships continue to deliver mutually beneficial value. It also ensures that our stakeholder engagement activities are integrated and are undertaken in a coordinated manner to improve their effectiveness further. It identifies the engagement “owners” with the appropriate knowledge and competencies.

## Our stakeholders are as follows:

**SHAREHOLDERS, INVESTORS, ANALYSTS AND LENDERS**  
 AECL strives to deliver sustainable value, consistently.

**CUSTOMERS**  
 AECL strives to provide the highest quality of goods and services to customers.

**SOCIETY AND COMMUNITIES**  
 AECL continues to invest in corporate responsibility initiatives to uplift the communities in which we operate.

**SUPPLIERS**  
 AECL builds and maintains sound and ethical partnerships with all suppliers.

**GOVERNMENT, ASSOCIATIONS AND REGULATORS**  
 AECL complies with all legislative and regulatory requirements in all jurisdictions.

**EMPLOYEES**  
 AECL provides employees with job security, fair pay and appropriate benefits in a safe work environment.

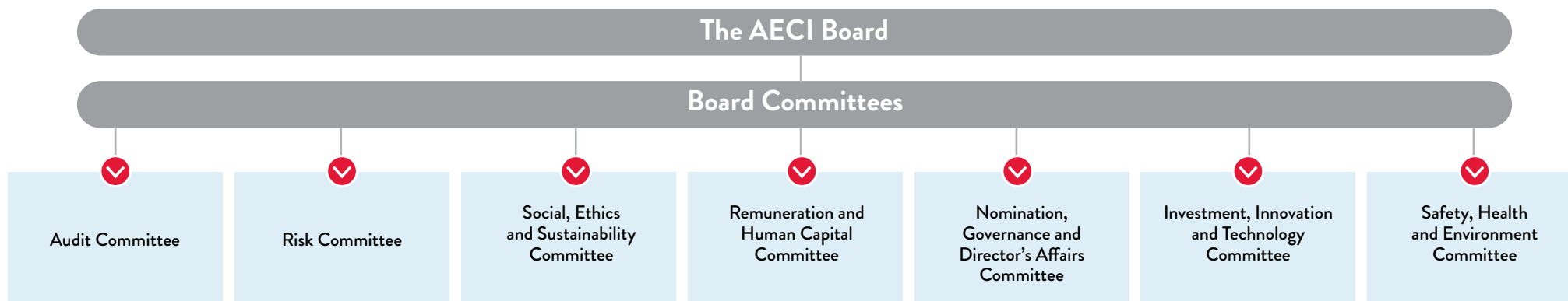
# Governance approach

## UN Global Compact and SDG Alignment

In line with the AECl growth strategy, Governance remains a key driver to enable AECl's strategic vision.



The AECl SESC supports the board in the governance of ethics to further enable the implementation of AECl's strategic imperatives. Furthermore, the SESC, in collaboration with the SHEC and Audit and Risk Committees, oversees all risk management policies and practices group-wide.



### In 2022, a specific focus was placed on the following key aspects:

- Addressing key risks identified through the materiality survey
- Applying key risk frameworks and disclosures, such as Task Force on Climate-related Financial Disclosures (TCFD) to our reporting
- Implementing policy-related system and process changes
- Aligning reporting with the relevant global reporting standards

## Our approach to sustainability governance and implementation

In alignment with the company's growth strategy and our commitment to place sustainability at its centre, the former social and ethics board committee was renamed the 'social, ethics and sustainability committee' in 2022. This change is reflected in the committee's mandate.

The SESC is currently chaired by Fikile De Buck who has extensive experience and expertise in guiding large organisations on matters relevant to the mandate of such a committee. At operational level, the group executive sponsor for sustainability is Dean Mulqueeny. Dean is a member of the group executive committee, he leads AECl Water and is also Chairman of AECl Much Asphalt. Furthermore, Dean heads up innovation, which is one of our three growth platforms.

## Governance approach CONTINUED

Early in 2023, the group filled the newly created group head of sustainability and ESG position.

Across the group, sustainability champions, together with the group heads for safety and sustainability respectively, have been appointed as part of a sustainability steering committee to ensure alignment with the group's sustainability strategy within each business. The role of the sustainability steering committee is to ensure alignment across all group entities on sustainability-related matters, to ensure consistent and aligned action throughout the organisation and to ensure the appropriate implementation of the sustainability strategy by each business.

The committee meets quarterly to review and discuss pertinent sustainability-related matters and makes recommendations for approval by the group executive committee, the SESC and the board as required.

During 2022, the AECI board formally adopted a group-wide sustainability policy. In addition, we initiated the process to formulate a group-wide climate change policy. This policy will further enable our commitment to achieving our 2050 Net Zero Goal, as well as our related mitigation and adaptation efforts.

The integration of five priority ESG performance metrics into the group's LTI scheme (see [RR](#) [page 10](#)) was approved by the board in 2022. This is in line with our commitment to sustainability and in response to feedback received from shareholders and wider stakeholders on what they consider material.

We acknowledge that sustainability is a key driver for achieving our growth strategy. In addition to a sharper focus on this imperative, this also requires that we reinforce a sustainability culture among all our employees and that we heighten their awareness of its importance as an enabler of business growth. All our employees should be sustainability champions, across all employment levels, business and support functions and geographies. In support of this, sustainability training programmes will be rolled out in 2023.



*Zero Harm is a cornerstone of our growth and sustainability strategies*

## TCFD Pillars

### GOVERNANCE

#### AECI Response

##### The board's oversight of climate-related risks and opportunities

The board takes overall responsibility for AECI's risk management. The board is supported by the risk and the audit committees as well as the SESC. The newly constituted SHEC provides oversight on critical operational risks. The board and committees provide leadership to implement the principles of good corporate governance across AECI, ensuring all decisions and actions are based on integrity, accountability, equality, and transparency.

##### Management's role in assessing and managing climate-related risks and opportunities

The governance structures in place ensure that senior leaders within the business are regularly and accurately informed of the most important climate-related risks and opportunities. Leadership engagements include information on a range of relevant topics for robust debate and discussion as required. These sessions further inform strategic and operational interventions required to align with longer-term obligations.

The responsibility for sustainability management is specifically delegated in the organisation. The recently appointed group head: sustainability and ESG, has strategic responsibility for sustainability and environmental issues and is supported by a group sustainability steering committee and sustainability champions from all group operations.

### STRATEGY

#### AECI Response

AECI recognises the risk posed by climate change and has taken significant action to reduce its GHG emissions. Climate change aspects influencing AECI's strategy include:

- Increasing legislative developments that will result in an increasing price for carbon, driving the need for a reduction in emissions. There are initiatives across the group's global operations which require various region-specific actions to align with our long-term goals
- Increased legislative developments mandating accurate reporting of GHG emissions in all jurisdictions
- Increased focus on reporting of Scope 3 emissions to properly inform a just transition strategy
- AECI has committed to a 2050 Net Zero Goal. Realisation of this goal will be supported by a refined strategy as required, formalised and relevant policies, a structured just transition pathway, regular monitoring and review and adaptation as required

### RISK MANAGEMENT

#### AECI Response

AECI has a robust enterprise risk management process in place which has matured over several years to become an essential management and strategic tool. The focus of the risk management process is not only on adverse conditions potentially facing the business but also on the identification of opportunities to the advantage of the business and our stakeholders. The risk committee of the board ensures that relevant risks are reviewed and conducts a "deep dive" into selected risks at each meeting, thereby keeping the risk register dynamic and relevant.

### METRICS AND TARGETS

#### AECI Response

With 2020 marking the start of the decade of action on the SDGs, AECI's sustainability strategy process was initiated through the identification of priority SDGs and associated metrics for the management of performance and improvement. The group has set initial targets for the period up to 2025 and will be embarking on a process to formulate additional targets for the period up to 2030.

AECI currently uses the following metrics to track its climate change actions:

- Potable water consumption (m<sup>3</sup>)
- Discharge to sea or sewer (m<sup>3</sup>)
- GHG emissions (tonnes CO<sub>2</sub>e)
- Renewable energy
- Hazardous waste generated (tonnes)
- Number of environmental incidents



# The global perspective

Climate change is one of the most complex yet pressing issues facing humanity today and global understanding of the phenomenon continues to evolve. In recent decades the effects of climate change have become more evident as temperature change accelerates. Although climate change is of global consequence, its effects are not uniformly distributed. Developing countries will be the first and hardest hit. The impact of climate change will be felt across sectors and across nations and it will be critical for nations and individual businesses to devise appropriate response strategies.

Globally, the planet continued its warming trend in 2022. The remaining carbon budget keeping warming below 1.5°C will be gone in nine years, if emissions remain at current levels. This calls for stronger actions to accelerate the clean energy transition and place the world firmly on a path to meeting transition goals.

The effects of global warming and climate change have already resulted in some devastating and extreme weather events, which have impacted on our operations, neighbouring communities and the value chain, including shipping ports and roads used for transportation by us and by our customers. To ensure we do our part to keep the rise in global average temperature below 1.5°C, in line with the Paris Agreement, we have committed to a 2050 Net Zero Goal. Accordingly, climate change is recognised as a risk and is included on the group's risk register.

As a global imperative, it is essential that nations and individual corporate businesses act in a collaborative and cohesive manner to move from mitigation to adaptation whilst embedding just transition in forward-looking strategies.

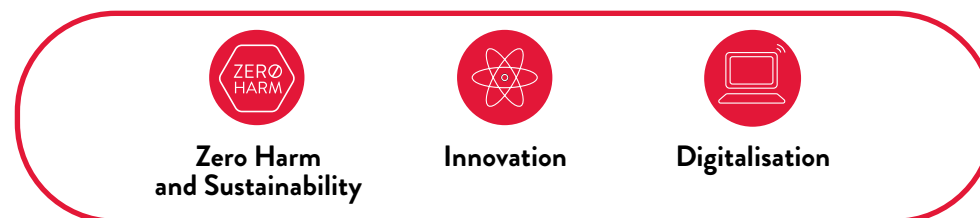
## COP26 and beyond

The COP26 summit, held in Glasgow, Scotland in 2021, brought parties together to accelerate action towards the goals of the Paris Agreement and the United Nations Framework Convention on Climate Change. Nine requirements were outlined for a more orderly transition, which highlighted the complexities – fraught with challenges but also presenting opportunities – of solving the net-zero equation.

At the conclusion of COP27 held in 2022 in Sharm El-Sheik, Egypt, attention was again drawn to the fact that the path to net zero is and will always remain a challenging one. However, factors related to surging inflation, rising energy costs, as well as the ongoing Russia-Ukraine war have brought even greater challenges to this journey. A turbulent worldwide macroeconomic environment, coupled with complicated government negotiations, highlight the need to focus not only on a net zero emissions transition, but on one that also focuses on greater energy security, resilience and affordability.

## GOALS

In pursuit of AECI becoming a leader in the progression of mining, water treatment agriculture and chemicals across all the regions in which we operate, the following three strategic platforms of our growth strategy are key to this role in the future:



Based on the group's purpose and goals, our sustainability approach is underpinned by the principles of ensuring a safe and sustainable environment for our people, the communities in which we work, our customers and our wider stakeholder community. Furthermore, to support our dedication to sustainability, we continue to ensure the integration of the UNGC principles into our operations.

As a demonstration of our commitment to the long-term protection and sustainability of our planet we have made a public commitment to achieve our 2050 Net Zero Goal. This goal underpins our strategic approach and will be supported by a realistic and achievable transition pathway. Progress in line with this pathway will be monitored regularly to assess the viability of actions and adjust plans as required.

## The global perspective CONTINUED

As a forward thinking company, AECI has recognised that major risks are emerging that could threaten our business, our customers, shareholders, and stakeholders, particularly in Africa where the impacts of climate change will be extreme. Continuing conditions of poverty and inequality remain major disruptors to socio-economic progress in developing countries, shaping the economies of markets, and limiting economic participation. In more developed geographies such as the USA and Europe, the diverse political drivers for ESG driven initiatives, require careful consideration of application of our strategic philosophy with regional constraints.

### The group has therefore taken a considered decision to focus on:

1. Materiality and risk
2. Integration of UNGC principles across our entire value chain
3. Synchronisation with the SDGs to align with global agreement on economic, social and environmental priorities to be met by 2025 and further extended to 2030
4. Restructure of our Sustainability Strategy in alignment with the six capitals during 2023: manufactured, natural, social and relationship, human, intellectual and financial capitals
5. Development of an action plan for a robust transition pathway to support our 2050 Net Zero Goal

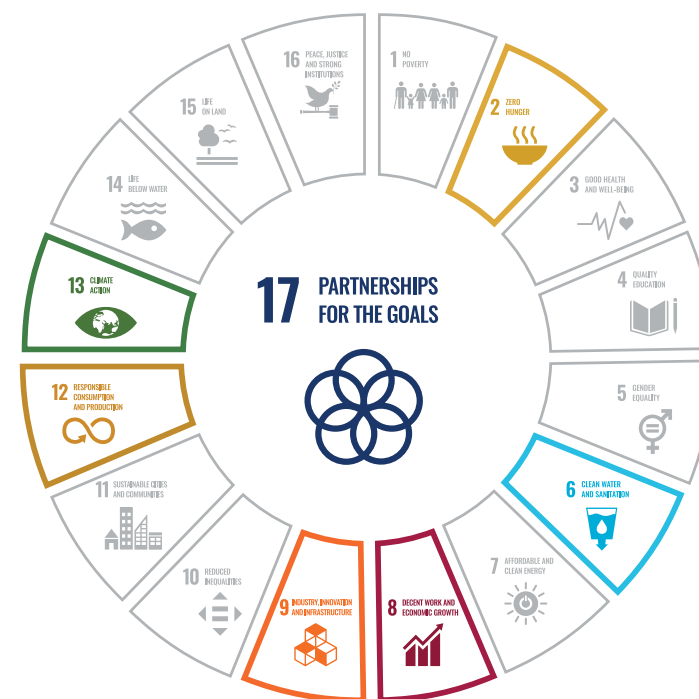
The group aims to remain agile in the face of the rapidly evolving global environmental, social and economic climate.

## Our priority SDGs

Global expectations that businesses will make meaningful and measurable contributions to achieving the SDGs working alongside and in collaboration with governments and civil society, have increased substantially. The path AECI has chosen will align with responsible, global action whilst providing shared value to the group and our stakeholders.

Our contribution to a better world is guided by our commitment to the 2030 Agenda for Sustainable Development, as defined by the UN for the period 2015 to 2030. The 17 SDGs, together with their 169 associated targets, are intended to transform the world – end poverty, address inequality, injustice and climate change. They provide an agreed blueprint for achieving a better and more sustainable future.

We have integrated the SDGs into our business strategy and operations and are committed to delivering on seven priority SDGs, which have direct relevance to our current business operations and markets. These seven SDGs are linked to KPIs in our ESG scorecard.





# Journey to sustainability

We have made significant progress over the past years to ensure that we are able to deliver growth and maximise resources to the benefit of all stakeholders, in a sustainable way.



## Our sustainability commitment

**Our purpose is One AECL, for a better world** and our vision is to deliver sustainable solutions for this better world through innovation and excellence founded on good chemistry.

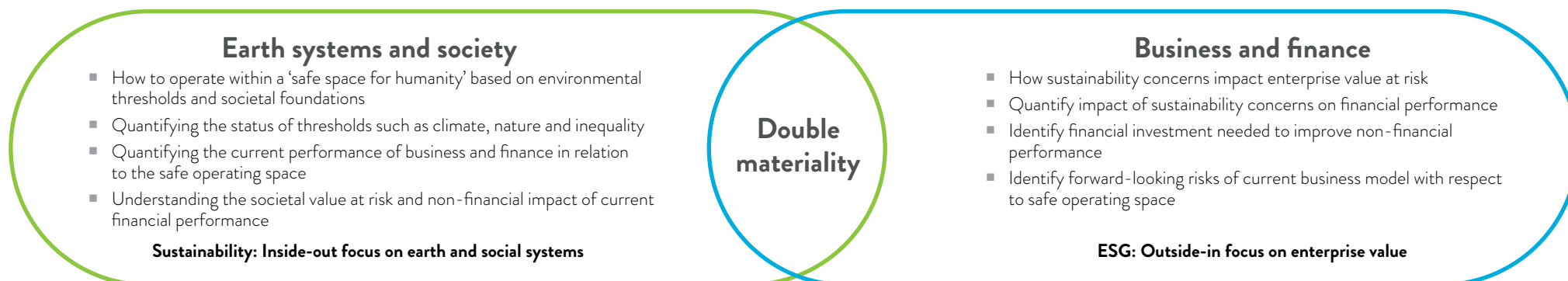
We intend to provide the best advice and products to our customers while simultaneously working to improve the environmental, social and economic aspects of the world in which we operate. Our vision becomes a reality when we put into action programmes and practices that maximise the use of natural resources, optimise the efficiency of our products and foster innovation and creative solutions that add value for our customers our communities and our planet.



# Sustainability strategy

Whilst the emergence of ESG considerations has grown significantly (driven primarily by more acute focus on ESG matters in capital markets) the broader concept of sustainability is paramount for us and is where our core focus lies.

In line with emerging and best practice across the world, AECI has adopted a 'double materiality' approach to assess our material matters. Double materiality is defined as the consideration of an organisation's impact on the environment and society (the inside-out impact) whilst simultaneously considering the impact of society and the environment on our performance (the outside-in impact).



## Our material matters

Our sustainability strategy is founded on five material matters which were identified following a detailed materiality assessment which targeted feedback from stakeholders. These material themes continue to guide the development and implementation of our sustainability strategy, sustainability framework and sustainability management approach.

Based on ongoing feedback from our stakeholders, our five material themes are unchanged and will continue to be the foundation of our strategy. **Our material themes are:**



### Strong governance

Strong governance is critical to building trust, protecting value and preventing corporate failure. In countries where corruption is pervasive, this could not be more important.



### Consistent value creation

Consistent value creation allows us to fulfil our purpose of 'One AECI, for a better world'. Our financial sustainability ensures we contribute towards creating work and economic growth in the countries in which we are present.



### Climate action

Tackling climate change is a key obligation of our time. Its effects already include extreme weather events across the world, and harm to our own operations, communities and value chains.



### Responsible operations

We must align every operational decision and action with our purpose of 'One AECI, for a better world' in pursuit of Zero Harm to people and the planet.

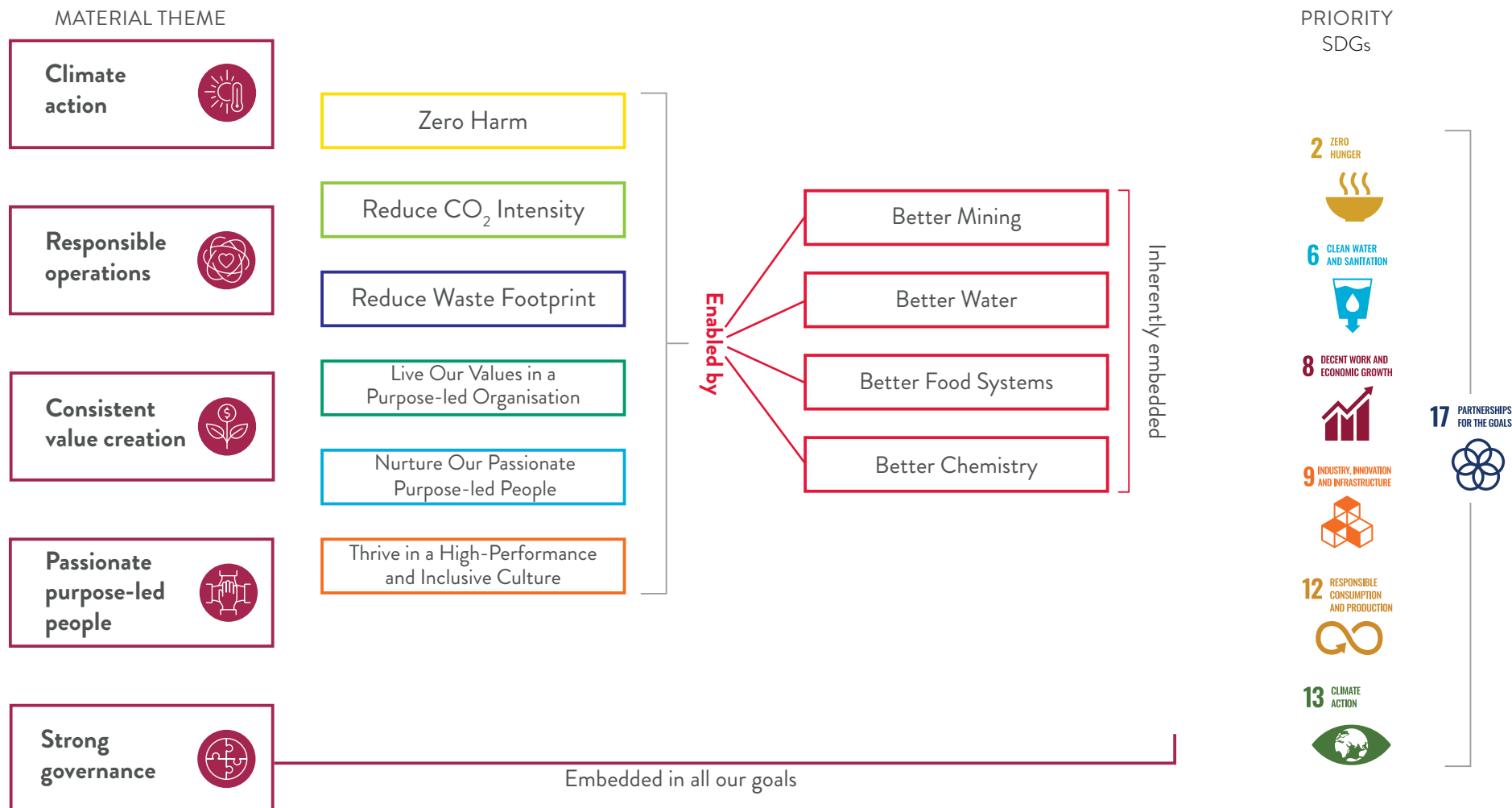


### Passionate purpose-led people

To deliver on our purpose, we must create a culture of high performance and inclusion.

## 10 key goals of our sustainability framework

As an expression of our material themes, our sustainability framework is made up of ten key goals. This framework acts as a compass for the planning of our sustainability-related interventions, as well as the execution thereof. While we have undergone a process of identifying material themes and have linked these to specific goals and to our priority SDGs, it became apparent to us that none of these material themes, goals or the aligned KPIs can be managed in isolation. There is an intrinsic linkage in these aspects. The mapping of these linkages is depicted below:



## Sustainability indicator performance

We have set targets for 2025, recognising that these will need to be reviewed and aligned with our longer term strategic goals over time. For this reason, we have started a 2030 target setting process that will make our targets more relevant in alignment with our 2050 Net Zero Goal. The review of targets is by definition an iterative process since our businesses change through reporting cycles. This requires us to adapt not only our operations but also our targets through their regular review. We will be agile and responsive to the environment around us in order to ensure we remain resilient and on track to achieve our 2050 Net Zero Goal.

	KPI	Metric	2025 Target	2021 Status	2022 Status	Performance Year-on-year (%)	Commentary 2022
ENVIRONMENT	1. Decrease potable water consumption	m <sup>3</sup>	25% reduction from baseline	●	●	+2%	The change resulted due to increased production across operations.
	2. Decrease discharge to sea or sewer	m <sup>3</sup>	20% reduction from baseline	●	●	+4%	An increase was mainly due to production increases at AECI Mining Chemicals, AECI Property Services and AECI Water. Effluent recovery and treatment continue to be focus areas for achieving 2025 targets.
	3. Decrease Scope 1 emissions	tCO <sub>2</sub> e	20% reduction from baseline	●	●	+1%	The increase was due to higher natural gas consumption at Schirm Germany.
	4. Decrease Scope 2 emissions	tCO <sub>2</sub> e	8% reduction from baseline	●	●	-4%	The reduction was achieved through lower levels of emissions from indirect emission sources.
	5. Decrease Scope 3 emissions	tCO <sub>2</sub> e	Target to be set in 2023	●	●		Scope 3 emissions were quantified in 2022.
	6. Increase electricity from renewables	MWh	8% of electricity consumption baseline	●	●		Several solar projects have been initiated across the group. The 2025 targets remains on track.
	7. Increase recycled waste	Metric tonne	Target to be set in 2023	●	●	-3%	A year-on-year improvement in performance was observed.
	8. Decrease hazardous waste	Metric tonne	Target to be set in 2023	●	●	+20%	Increase was recorded for 2022 mainly due to AECI Mining Explosives and AECI Animal Health.
	9. Increase recycled materials	Metric tonne	Target to be set in 2023	●	●		In 2022, the use of recycled materials in production processes was tracked.
	10. Decrease moderate environmental incidents	Number of incidents	22	●	●	-57%	No major or serious environmental incidents have occurred in 2022. Improved environmental management at operations resulted in a significant decrease in Moderate incidents.
SOCIAL	1. Total recordable incident rate (TRIR)	Rate	<0.25	●	●	-35%	Ongoing focus on Zero Harm initiatives and comprehensive incident management has progressively improved safety performance across the group.
	2. Gender equality						
	2.1. Board and top management	% female employees	33%	●	●	+5%	Significant progress made on gender representation at board and top management levels.
	2.2. Senior, middle and junior management levels	% female employees	40%	●	●	-3%	While the group embarked on a focussed recruitment drive, 2025 gender targets were not met. Future initiatives will aim to address this gap.
	3. Leadership development	Number of employees	120	●	●	-6%	Despite a year-on-year decrease, our Leadership Development programme is still on track to meet the 2025 Target.

● 2025 target achieved ● 2025 target partially achieved ● No progress made against 2025 targets ● Targets not yet determined ● Baseline data and progress data available

Sustainability strategy CONTINUED

	KPI	Metric	2025 Target	2021 Status	2022 Status	Performance Year-on-year (%)	Commentary 2022
SOCIAL	4. Learnerships/internships/bursaries	Number of people	212	●	●	+100%	The number of interns increased due to the introduction of a structured in-house programme piloted at AECI Plant Health.
	5. Employee volunteerism	Number of people	300	●	●	+627%	Volunteerism has grown significantly post the COVID-19 pandemic. The group ran five campaigns aligned to international celebratory days.
	6. Corporate social investment	Rm (value)	10	●	●	+42%	The increase resulted due to higher contributions from global operations.
	6.1. South Africa	Rm (value)	8.5	●	●	+72%	This is directly linked to increased 1% of NPAT.
	6.2. International	Rm (value)	1.5	●	●	+49%	An increase in international participation in CSI projects resulted in better contributions.
	7. ESD local community spend	% of direct spend with local suppliers/total supplier spend	33%	●	●	+50%	Despite year-on-year improvement, additional efforts based on partnerships, new initiatives and incentives are required to achieve our 2025 target.
	8. Enterprise and supplier development	Number SMMEs supported	25	●	●	+20%	The number of SMMEs increased due to more active and consistent application of our localisation policies. Additional initiatives will be required to meet our 2025 target.
	9. Preferential procurement	B-BBEE points achieved	22	●	●	-11%	The lower B-BBEE points were due to an increase in commodity prices and resulting higher procurement from entities that do not have 51% Black ownership.
GOVERNANCE	1. Responsible leadership			●	●		
	1.1. Leadership accountability	Board and executive committee are accountable for sustainability.		●	●		The SESC and EC members and the steering committee engage regularly on sustainability-related matters. Sustainability policy developed and approved by the board.
	1.2. Stakeholder engagement	Sustainable business decisions accounting for interests of all stakeholders.		●	●		The SMF was approved by the board in 2022.
	1.3. Remuneration practices	Performance criteria in remuneration practices for governing body members and senior executives include economic, environmental and social objectives.		●	●		LTIs now include ESG metrics.
	2. Ethical business	Appropriate business policies, procedures and practices in place.		●	●		Anti-bribery and corruption policy has been developed and was approved by the board in 2022. Ethics policy is reviewed annually.
	3. External assurance	Independent external assurance on applicable standards and KPIs in place for sustainability reporting and environmental legal compliance.		●	●		Limited data assurance was concluded as required.
	4. Regulatory reporting	Submit regulatory reports which relate to, for example: water use licences, air emissions licences, carbon tax, GHG reporting and environmental incidents.		●	●		All regulatory reports, license compliance documents were submitted. Reports on incidents are constantly being reported to authorities as required.

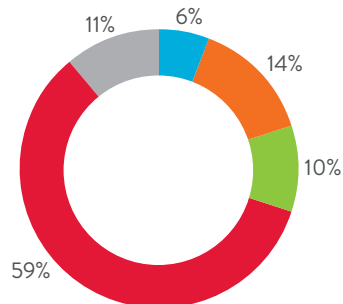
● 2025 target achieved ● 2025 target partially achieved ● No progress made against 2025 targets ● Targets not yet determined ● Baseline data and progress data available



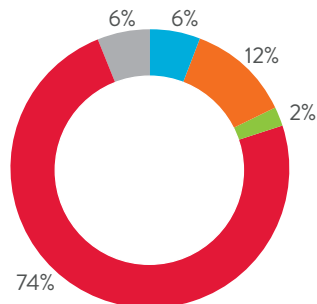


## Key variable contribution per business pillar

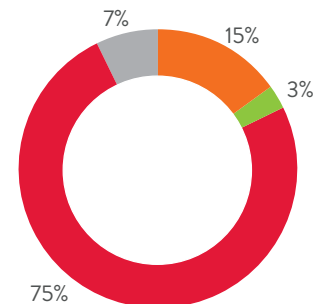
POTABLE WATER CONSUMPTION



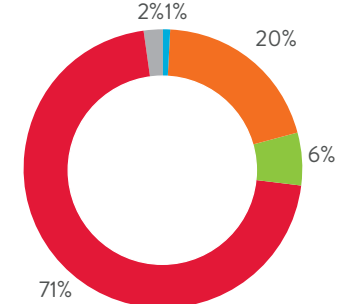
DISCHARGE TO SEA OR SEWER



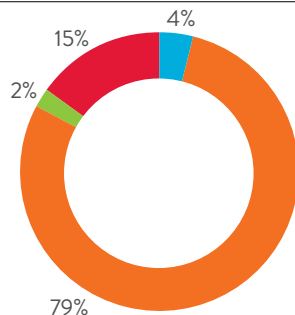
SCOPE 1 EMISSIONS



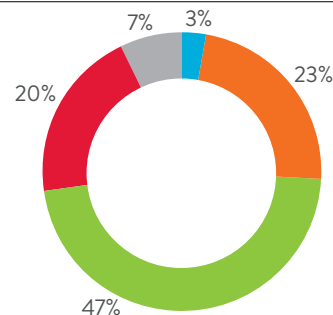
SCOPE 2 EMISSIONS



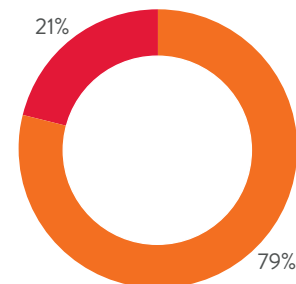
RECYCLED WASTE



HAZARDOUS WASTE



RECYCLED MATERIALS



### ELECTRICITY FROM RENEWABLES:

We initiated a number of solar projects across the group, these remain on track to deliver renewable energy in line with our 2025 target.

### SCOPE 3:

During 2022, we initiated and completed a process to quantify Scope 3 emissions for the first time. Given the scale and complexity of our group and the associated value chains, we are pleased that we were able to execute this work in line with global best practice. We will continue to engage with stakeholders in our value chain to further embed this process so as to improve the accuracy of the Scope 3 quantification over time. In the interim, the outcomes of our 2022 findings will form the foundation of our approach to setting a baseline and a reduction target.

Scope 3 emission assessments aim to quantify the indirect GHG emissions associated with our upstream and downstream value chain.

# Responsible operations

## UN Global Compact and SDG Alignment

As a responsible corporate citizen, we have committed to minimising our environmental impact and we strive for Zero Harm across our value chain.



Our Zero Harm strategy (implemented from 2017) is fully embedded across the group and is a critical element of our organisational culture.

During 2022 our TRIR was 0.15, the lowest since we began tracking this metric. It is pleasing that we also had noticeable success in reducing our overall negative environmental impacts.

As already outlined above, we have completed our first quantification of Scope 3.

## Zero Harm

Our business model presents us with multiple challenges and risks in terms of achieving our Zero Harm aspirations. It also presents opportunities for improvement in performance and operational excellence.

The challenges and risks stem from our diverse operating environments: manufacturing at our own premises, producing at our customers' sites and (as is the case at the Umbogintwini Industrial Complex (UIC) and Modderfontein) hosting other operations as tenants. Adding to this complexity (and the multiplicity of products and customer sectors) is our global geographic footprint. This means that we impact many different communities and societies, all of whom have their own expectations, practices, and regulations. It is this very complexity that makes our commitment to Zero Harm immutable and a cornerstone of our culture.

No harm to people and the environment is a key priority for AECI, our customers and stakeholders including regulators, and host communities. By resolutely pursuing our Zero Harm goals, we differentiate ourselves from our competitors and secure our social licence to operate across industry sectors, geographies and operating contexts.

2022 marked the completion of the fifth year since the Zero Harm strategy launch and execution, which continued to enable the implementation of safe practices and drive improvement across most key performance areas. Most notably, all group 'Zero Milestones' were achieved for the second consecutive year. These milestones were set as a specific focus for eradicating all major incidents including workplace fatalities, life-altering injuries, major process safety, product transportation, and environmental incidents.



### HIGHLIGHTS IN 2022 AECI ACHIEVED:

**ZERO** FATALITIES\*

**ZERO** LIFE-ALTERING INJURIES

**ZERO** MAJOR OR SERIOUS ENVIRONMENTAL INCIDENTS\*

**ZERO** MAJOR PROCESS SAFETY INCIDENTS

**ZERO** MAJOR PRODUCT TRANSPORTATION INCIDENTS\*

**ZERO** REPEAT INCIDENTS

**ZERO** SHE LEGAL DIRECTIVES

**0.15** TOTAL RECORDABLE INCIDENT RATE  
**OUR LOWEST EVER\***

**0.81** PROCESS SAFETY TOTAL INCIDENT RATE

**6 MODERATE** ENVIRONMENTAL INCIDENTS DOWN FROM 14  
**OUR LOWEST EVER\***

**WORK-RELATED INJURIES:**

**15** RECORDABLE WORK-RELATED INJURIES

**6** NON LOST TIME WORK-RELATED INJURIES (NLTi)

**9** LOST TIME WORK-RELATED INJURY (LTI)

**19 723 383** TOTAL NUMBER OF HOURS WORKED

\* Indicates limited assurance  
^ Indicates qualified assurance

## Managing strategic and operational risks

Our revised and standardised risk management journey continued, with emphasis on understanding our top SHE risks in more detail and reviewing the controls to manage them. A milestone was achieved in the year with the completion of the group SHEQ manual which details the required standards for the 15 risk categories which have been identified as critical to our operations. The manual will serve as the basis for implementation of the next phase of the risk management process, namely control implementation and assurance.

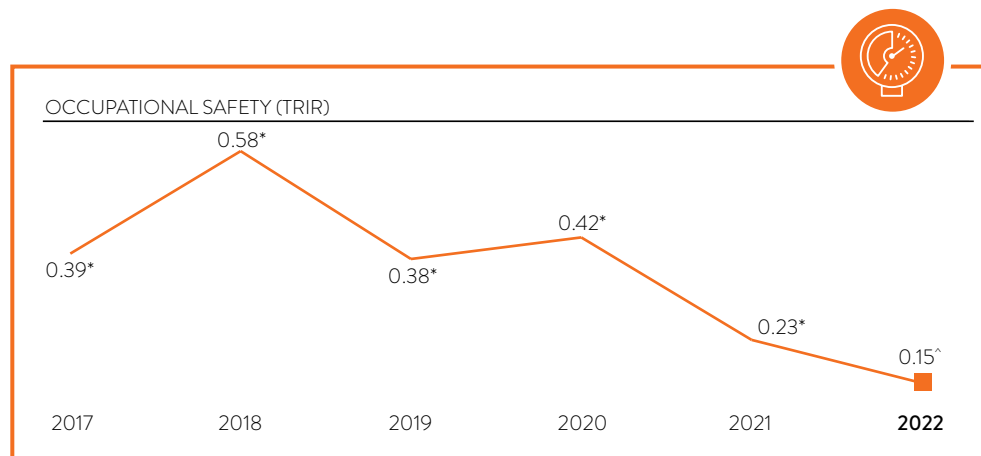
### OCCUPATIONAL SAFETY

#### AECI Mining – occupational safety

The result for 2022 was the best ever recorded in the history of AECI Mining. The pillar's TRIR was 0.1, better than the in-house upper limit aspiration of 0.16. Furthermore 0.10 will be the business's own upper limit for 2023.

The performance in 2022 bears testament to the collective dedication and hard work of every AECI Mining employee across more than 20 countries. The business's diligence in following protocols, identifying potential hazards, and reporting actual or potential incidents made a significant impact in maintaining a safe work environment. As we continue our journey to Zero Harm, the dream is starting to become reality to the benefit of our stakeholders and ourselves.

We remain deeply saddened by the loss of our contracted employee in March 2023, and remain committed to constantly enforce safety performance by learning from such incidents and guarding against complacency.



Schirm Germany operations were not able to provide supporting evidence for their reported data related to manhours which is included in the AECI group reported figures

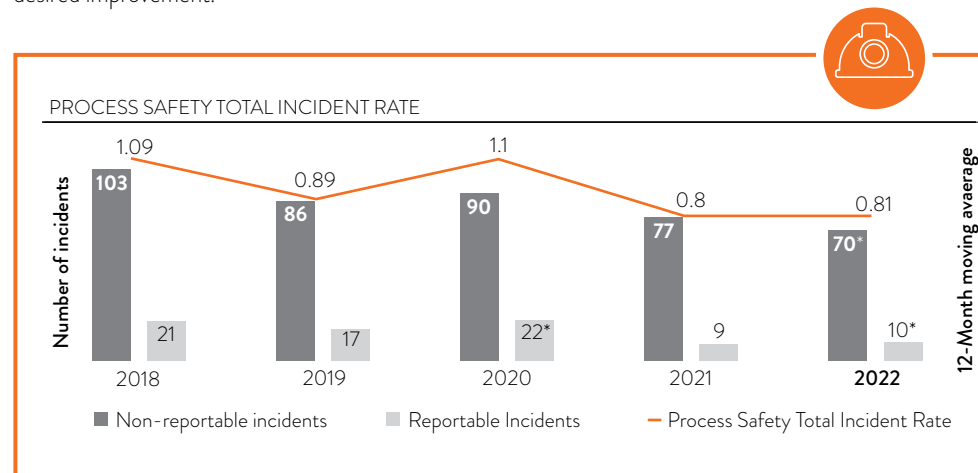
## Focus on process safety management

While all risks require management, priority is placed firstly on the prevention of loss of primary containment of hazardous chemicals. This risk is common to most of the group's operating sites, and secondly on the prevention of explosive material incidents in AECI Mining Explosives. A defined risk-based process safety management system has been developed and standardisation of elements is underway. A milestone in 2022 was the development of a process safety risk profile, which allows for the prioritisation and management of these risks in terms of geography.

## Benchmarking our performance

### PROCESS SAFETY

Much effort has been made to standardise and encourage reporting on process safety incidents, which deal with low frequency high intensity incidents related to chemical processes. These incidents are usually associated with fires, explosions and accidental release of toxic materials. Whilst it is pleasing to report a reduction in the total rate of all incidents, the frequency of Reportable incidents (those of a higher severity, based on pre-defined thresholds) was of concern in 2022 as this did not achieve the desired improvement.



Graph depicts the occurrence of process safety incidents in relation to exposure hours recorded for employees  
The term 'Reportable' is an industry-agreed definition. An incident is deemed Reportable when certain thresholds are exceeded

- \* Indicates limited assurance
- ^ Indicates qualified assurance
- # Baselines were determined by analysing the data in the respective years of highest production over the period 2017–2019

## Occupational health

Occupational accidents and work-related illnesses are a concern for industry everywhere. We remain focused respecting our people's rights to a safe and healthy work environment by mitigating source level exposures, undertaking medical surveillance, prioritising illness case management and fast tracking actions from hygiene reports. AECI recorded one new occupational illness in 2022, resulting in an occupational illness rate of 0.01\* (2021: 0.01). We continue to identify and evaluate our global occupational health risks as defined in our group SHEQ manual.

## Product transportation and stewardship

Road freight remains a significant risk in the global context. Whilst AECI is pleased to report no major transportation incidents since December 2019, we remain vigilant of the risk associated with moving our products across the globe. A slight deterioration in our Transportation Indicator of Performance (TloP) was noted in 2022 (0.37) compared to 2021 (0.31). Improvement in this indicator is driven by our Zero Harm framework in terms of which we aim to prioritise fatigue management processes. We assess contracting services from service providers who are Safety & Quality Assessment for Sustainability accredited and satisfy ourselves that valid transportation route risk assessments are undertaken.

### 15 risk categories



\* Indicates qualified assurance



Health and safety are paramount in all our activities

# Environmental stewardship

## UN Global Compact and SDG Alignment

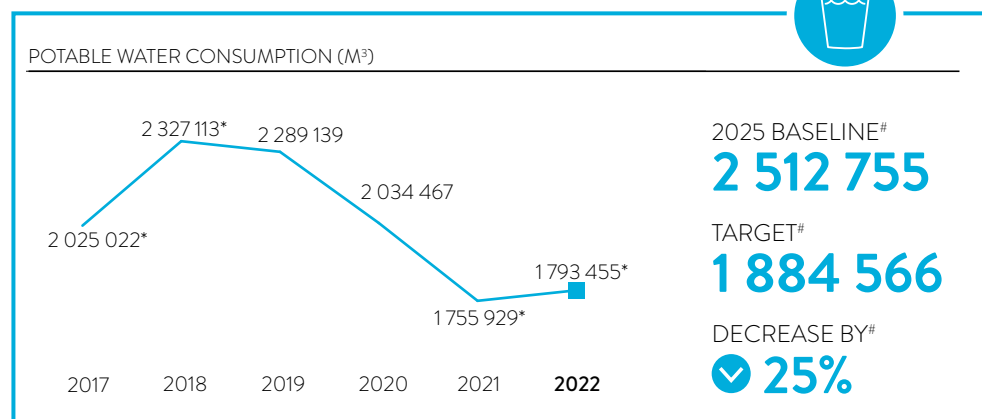
AECI is committed to continuous improvements in the management of environmental impact and to the longer-term goal of maintaining a sustainable business. The ongoing attention and focus on water, waste, energy and emissions management will remain a priority.



## Water management

### POTABLE WATER REDUCTION

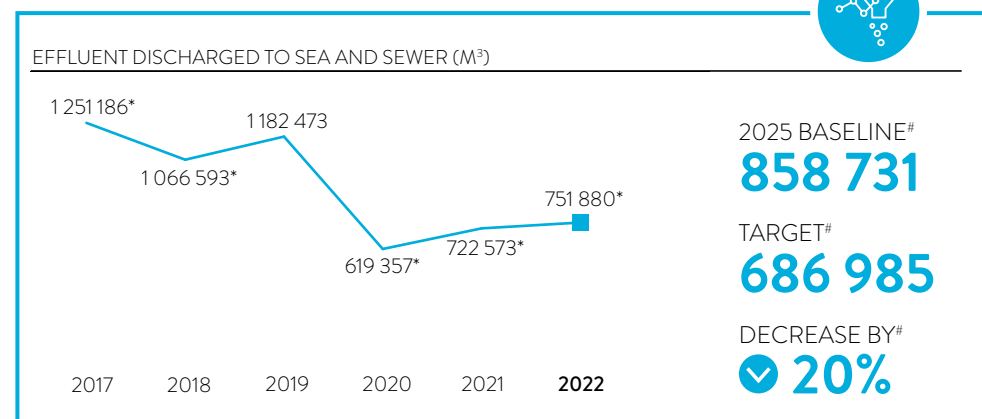
Integrated water resource management principles are key to AECI's strategy to reducing our negative environmental impact. Whilst we achieved a significant reduction in potable water usage for 2021 on the back of ongoing pandemic-related interruptions, a 2% year-on-year increase was recorded in 2022. This increase was mainly due to increased production rates across our global operations. Higher usage was recorded in AECI Water and AECI Property Services (for steam generation). However, the performance remains ahead of projected timelines in terms of achieving a 25% reduction from baseline by the end of 2025.



### REDUCING EFFLUENT DISCHARGE TO SEA OR SEWER

2022 saw a 4% increase in the volume of effluent discharged compared to 2021. Again, the main reason was higher production levels at AECI Mining Chemicals, AECI Property Services and AECI Water.

We initiated a number of zero effluent liquid discharge projects in 2021. Extensive feasibility assessments performed in 2022 have resulted in a transition from an end-of-pipe effluent treatment approach to satellite plants that are able to segregate effluent and treat at-source. We will continue to report on this going forward.



\* Indicates limited assurance  
# Baselines were determined by analysing the data in the respective years of highest production over the period 2017–2019

## Waste management

We recognise the value of moving waste from the end of its life cycle to the front-end and in doing so realising a circular economy. Our waste reduction model is centred on reconsidering inputs for our products. Essentially, we prioritised finding alternatives for raw materials to ultimately reduce our resource usage and the associated waste generation footprint.





2

1

## RECYCLED MATERIAL

A total of 125 969 tonnes of material was repurposed for use within our AECI Much Asphalt, AECI Mining Explosives, AECI Mining and AECI Chemicals Operations:

**4 020**

TONNES  
OF VIRGIN OIL

**22 336**

KILOLITRES  
SAVING ON POTABLE  
WATER USAGE

**91 607**

TONNES OF  
VIRGIN AGGREGATE

**The re-use of asphalt contributes to a further 3.2% saving on bitumen in the asphalt production process because of the existing binder content on the recovered asphalt.**



3

1) Recycled asphalt being crushed and used at Much Asphalt Eerste River

2) Recycled asphalt

3) Waste recycling facility in Sasolburg

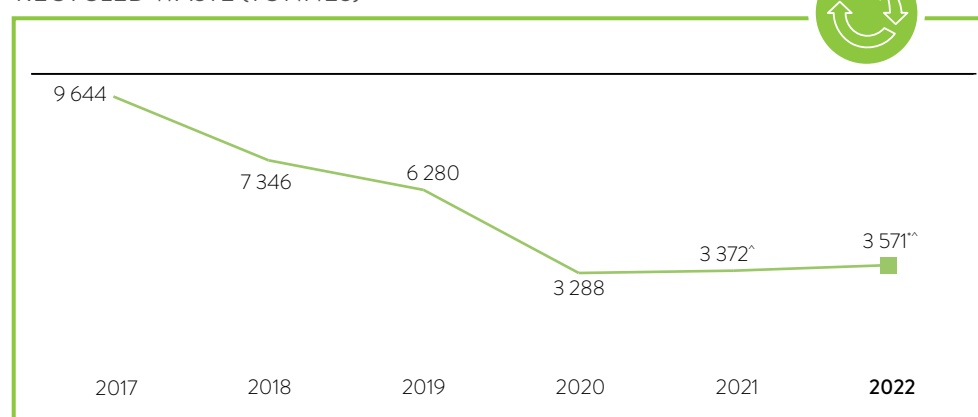
## Reducing waste to landfill

Completion of a waste recycling facility in 24 May 2022 has enabled the AECI Mining Chemicals, Sasolburg site to recycle all non-hazardous waste material from the site, including all plastic material, paper, boxes, tins and polystyrene. On average, seven tonnes of recyclable waste is segregated, shredded, compacted and transported for recycling.

## RECYCLED WASTE

AECI is committed to following sound waste management practices in alignment with the principles of circularity. Accordingly we are engaged in an ongoing drive to improve resource efficiency and firmly believe that waste reduction and improved recycling are critical to this process. This principle informed our approach in 2022, resulting in lower recyclable waste volumes which correlated to a reduction in overall waste generation.

## RECYCLED WASTE (TONNES)



\* Indicates limited assurance

^ Recycled waste figure excludes AECI SANS Fibers for 2021 (restated from 3 683 to 3 372) and 2022 due to inaccurate data. Processes have been put in place to accurately record this data for inclusion from 2023



Environmental stewardship CONTINUED

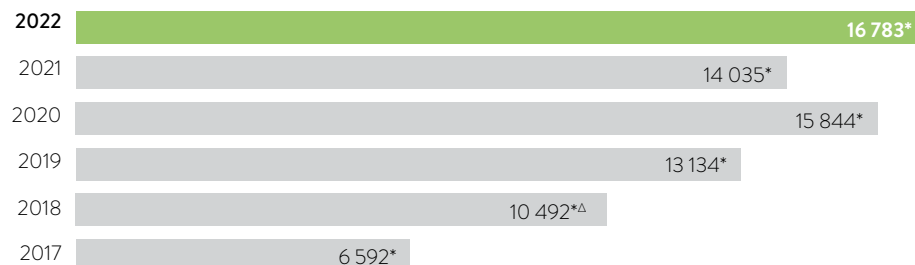
## HAZARDOUS WASTE

Production output is the predominant driver for an indicator such as the volume of hazardous waste generated. While maintaining focus on our growth strategy, we are committed to reducing our waste footprint and have established targets for waste indicators including hazardous waste. It should be noted that due to the hazardous nature of some chemicals, waste recycling and re-use are sometimes difficult. We are always exploring ways to better understand the nature and sources of waste and will continue to pursue finding applicable, responsible solutions.

During 2022 our hazardous waste production increased by 20% compared with 2021 volumes. This increase was attributable largely to higher production at AECI Mining Explosives and AECI Animal Health. Due to the complexity of production processes and the nature of hazardous chemical waste, careful consideration of disposal options will be required.



### HAZARDOUS WASTE (TONNES)



\* Indicates limited assurance

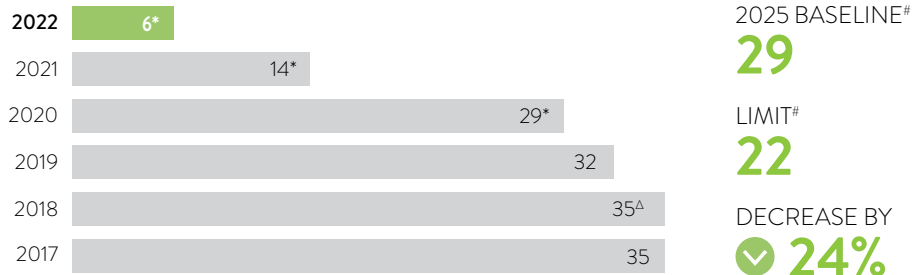
<sup>Δ</sup> Increase due to inclusion of data from AECI Schirm and AECI Much Asphalt

# Baselines were determined by analysing the data in the respective years of highest production over the period 2017–2019

## Environmental incidents



### ENVIRONMENTAL INCIDENTS (MODERATE)



\* Indicates limited assurance

<sup>Δ</sup> Increase due to inclusion of data from AECI Schirm and AECI Much Asphalt

# Baselines were determined by analysing the data in the respective years of highest production over the period 2017–2019.

No major or serious environmental incidents occurred in the year. The total number of moderate incidents recorded, including those relating to air emissions, was six, an achievement well below our limit of 22.

Although some of our South African sites have been granted postponements in terms of new minimum emissions standards, to 2025, we are focused on achieving full compliance before that time.

- Our largest operation, AECI Mining Explosives, improved the compliance of its nitric acid production processes, at Modderfontein. Further work remains to be done at the ammonium nitrate porous prill manufacturing facility
- AECI Mining Chemicals decreased emissions from its carbon disulphide manufacturing plant to well within compliance limits in 2022
- The installation of abatement technologies at AECI Plant Health's Lilianton site will be fast tracked to 2023 from the 2024 date scheduled originally
- No legal directives were issued in 2022 related to our Water Use Licenses, despite various inspection visits being carried out at our South African operations by the authorities

## Biodiversity and land management

### BIODIVERSITY

The Umbogavango Nature Reserve, at the UIC, was developed around two flood attenuation dams. The area is recognised by the KZN Ezemvelo Wildlife as an area of 'conservation significance'. AECI Property Services aims to ensure that conservation areas are protected and well maintained by managing the company's environmental impact responsibly and promoting and driving environmental solutions. Green spaces such as Umbogavango provide a habitat for a variety of bird species and small mammals. A portion of Umbogavango is used to host environmental programmes for local primary schools and other interested stakeholders.

Some of the interventions to maintain conservation areas include:

- Alien Vegetation Management
- Water Quality Monitoring
- Wetland Assessment
- Planting of indigenous plant species in areas where alien invasive plant species have been removed

### LAND MANAGEMENT

In 2022, the Highly Hazardous (HH) Dam waste management facility, built in 1988 to accept mercury-based effluent from the chlor-alkali mercury cell plant at the UIC became redundant. It was closed and this together with rehabilitation of the area, became focused elements of the remediation strategy for the UIC as a whole.

The drivers for the HH remediation project included reducing the risk of exposure and then expanding the reserve, thereby encouraging biodiversity in the area. A multi-disciplinary team of group and third-party specialists as well as the authorities collaborated.

Due to the nature of the dam's sludge, no rehabilitation solutions that entailed reusing, recycling, or recovering the sludge were appropriate. Following numerous engagements with authorities, service providers, and other interested and affected parties, a disposal option was agreed upon.

The closure and rehabilitation process was undertaken in three phases, namely:

- Phase 1, which involved removing the mercury waste from the HH Dam
- Phase 2, which entailed removing the dam's infrastructure
- Phase 3, which involved backfilling and repair

During July and August 2022, the HH dam structure and its related sludge were removed successfully and disposed of at the Dolphin Coast Landfill Management group-owned Kwadukuza landfill site in Stanger, KwaZulu-Natal.

In 2021, also at the UIC, our enhanced in-situ bioremediation (bio-barriers) project, entered a maintenance phase after five years of active deployment. The initial capital cost between 2015 and 2020 was R 125 million with the investment addressing the chlorinated hydrocarbon contamination of ground water from historical operations. An estimated R 10 million was spent on continued maintenance in 2022.

A highly regarded third party was appointed to independently review the technology deployed and to determine whether it remained relevant and effective in addressing the groundwater impact and moreover to gauge the sustainability of the project. A detailed report of the review will be available during 2023.

#### HH Dam project summary stats

TONNES OF SLUDGE MOVED

4 637

DISTANCE TRAVELLED TO DISPOSAL SITE (KM)

55 500

TOTAL MAN HOURS WORKED

16 857

INDIGENOUS TREES PLANTED

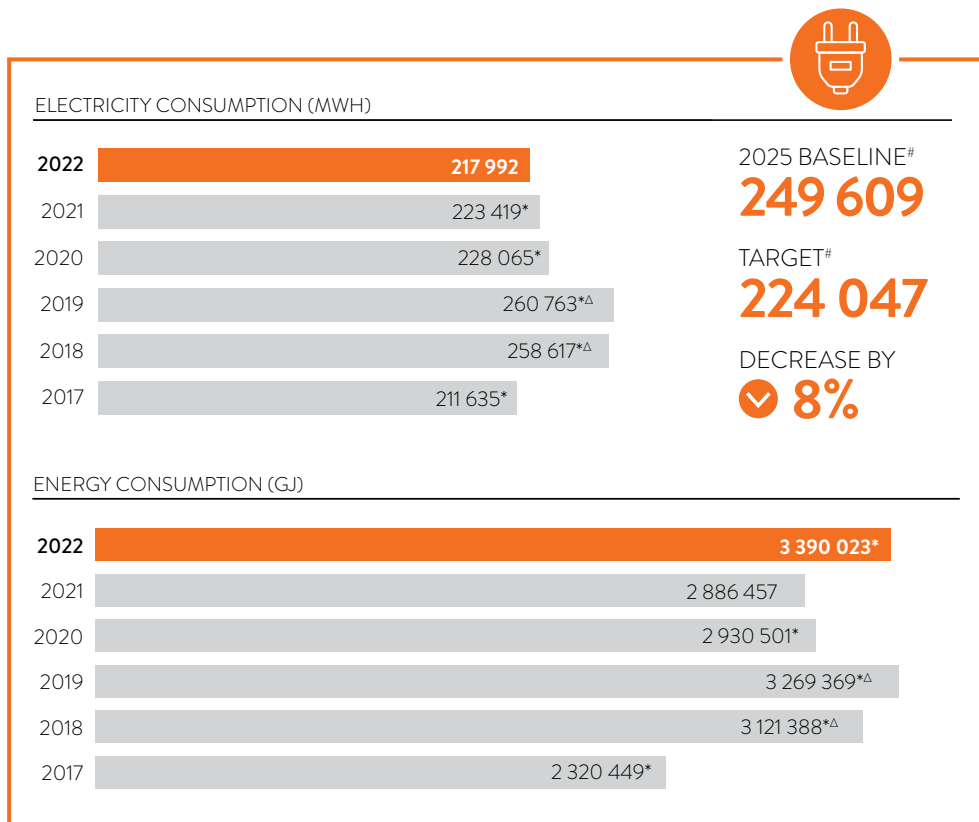
476



HH Dam before remediation and after backfill and repair

## Energy management

During the year, load shedding posed a significant challenge to our operations. This resulted in lower electricity usage across our South African operations. In order to manage the reduced assurance of power supply, the operations as well as administrative buildings resorted to increased use of diesel powered generators. Consequently, while electricity usage decreased, we saw a significant increase in our overall energy consumption.



\* Indicates limited assurance

<sup>Δ</sup> Increase due to inclusion of data from AECI Schirm and AECI Much Asphalt

# Baselines were determined by analysing the data in the respective years of highest production over the period 2017–2019  
Schirm Germany operations were not able to provide supporting evidence for their reported data related to electricity, which is included in the group reported figures.

## Managing tenant-occupied sites

AECI Property Services utilises an energy-efficient approach when planning for all building renovations and roof replacements, as well as when removing asbestos sheeting when upgrading buildings. During building renovations, careful attention is paid to the maximisation of natural light as this has a significant positive impact on energy efficiency.

## Carbon management

AECI has committed to a 2050 Net Zero Goal and in so doing will implement associated actions across our global operations. Just transition will be challenging due to the carbon-intensive nature of our production processes, exacerbated by the electricity crisis in South Africa, the lack of security in natural gas resources across global markets and carbon trade barriers. A deeper understanding of individual activities that make up our Scope 1 and 2 tonnes of CO<sub>2</sub> equivalent has enabled us to direct our focus to the most carbon-intensive business processes.

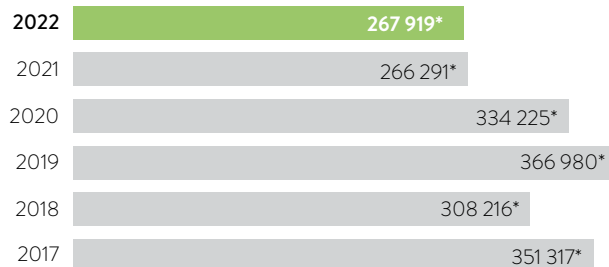
Scope 1 emissions recorded for 2022 were 267 919 tCO<sub>2</sub>e, up from 266 291 tCO<sub>2</sub>e in 2021. This represents an increase of 1% and Scope 2 emissions in 2022 were 225 882 tCO<sub>2</sub>e, down from 235 043 tCO<sub>2</sub>e in the prior year, a 4% reduction. The total carbon footprint for the group amounts to R 493 801\* tCO<sub>2</sub>e for 2022.

The Scope 1 emission increase was driven by higher natural gas consumption at our Schirm Germany operations. The Scope 2 emission decrease was achieved through reduced usage of indirect emission sources such as purchased electricity. The electricity consumption target for 2025 was achieved in 2022 with the total usage recorded at 2% below target, despite delays in commissioning our own generation of renewable energy.

With the increasing focus on Scope 3 emissions and the requirement to incorporate Scope 3 emissions into Science-Based Targets if these constitute greater than 40% of the total emissions, AECI embarked on its first comprehensive Scope 3 emissions inventory in 2022. The initial results of the Scope 3 quantification exercise indicate that AECI's Scope 3 emissions are approximately 1 602 633 tCO<sub>2</sub>e for 2022, constituting approximately 77% of AECI's overall carbon footprint.

Environmental stewardship CONTINUED

GHG SCOPE 1 EMISSIONS (TONNES CO<sub>2</sub>e)

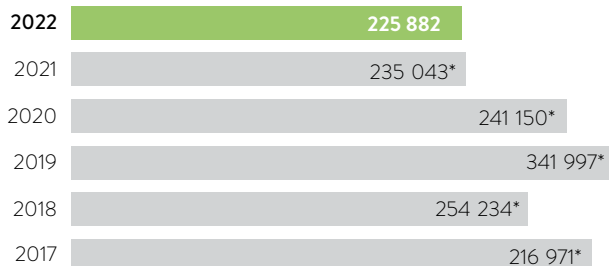


2025 BASELINE#  
**402 531**

TARGET#  
**322 025**

DECREASE BY  
**✓ 20%**

GHG SCOPE 2 EMISSIONS (TONNES CO<sub>2</sub>e)



2025 BASELINE#  
**273 548**

TARGET#  
**252 163**

DECREASE BY  
**✓ 8%**

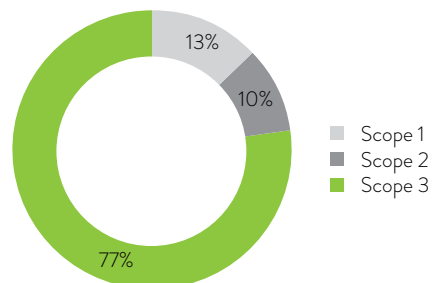
\* Indicates limited assurance

Δ Increase due to inclusion of data from AECI Schirm and AECI Much Asphalt

# Baselines were determined by analysing the data in the respective years of highest production over the period 2017–2019

Schirm Germany operations were not able to provide supporting evidence for their reported data related to electricity, which is included in the group Scope 2 reported figures.

CARBON FOOTPRINT 2022 (TONNES CO<sub>2</sub>e)



One of our solar power installations is at AECI Chem Park, Gauteng.

# Climate response

## UN Global Compact and SDG Alignment

Climate change remains a significant risk to all businesses. Therefore, AECI undertakes initiatives to promote greater environmental responsibility.



As part of our commitment to addressing the affects of climate change, in 2022 we continued to expand and refine our processes to measure and manage greenhouse gas emissions. These refinement processes aim to confirm a solid foundation on which to base risk assessments, consider future scenarios, and contemplate mitigation and adaptation options. Additionally, we are able to consider reduction pathway options and adopt strategies to deliver on our commitment to achieve our 2050 Net Zero Goal and align with the TCFD recommendations.

We continue to measure and monitor our Scope 1 and Scope 2 emissions. An achievement in 2022 was the installation of a secondary catalyst in one of our two nitric acid plants at Modderfontein. This had a meaningful effect on our scope emissions. Total Scope 1 and Scope 2 emissions for 2021 were 501 334 tCO<sub>2</sub>e. Scope 1 and Scope 2 emissions increased by 1% and decreased by 4% respectively in 2022.

## CDP reporting

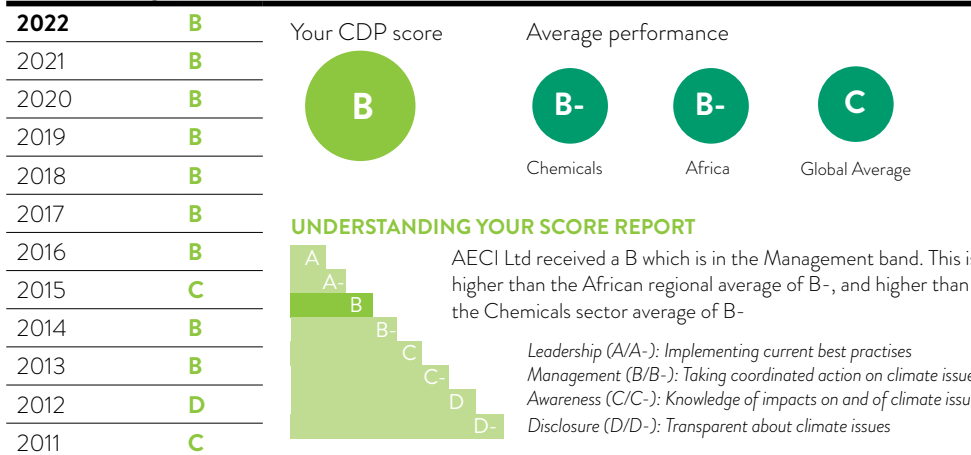
AECI again participated in voluntary CDP disclosure reporting in the year, as we have been doing annually since 2009. The CDP score report guides progress on environmental stewardship for companies such as ours through benchmarking against our peers. The objective is to drive continuous improvement in indicators relating to carbon emissions and water security. Our CDP Carbon and Water scores received a B-level performance score in the 2022 assessment.

## CDP CARBON

Our CDP carbon score was better than the overall global score and the average of the chemicals sector and that of companies in Africa.

We will continue to take a coordinated approach on climate issues and strive towards the implementation of best practice.

### Climate Change CDP Scores



### Areas identified to drive further improvement in our CDP Carbon performance include:

- Value chain engagement
- Scope 3 emissions
- Scope 1 and Scope 2 emissions verification
- Improved disclosure of our opportunities
- Emissions reduction initiatives



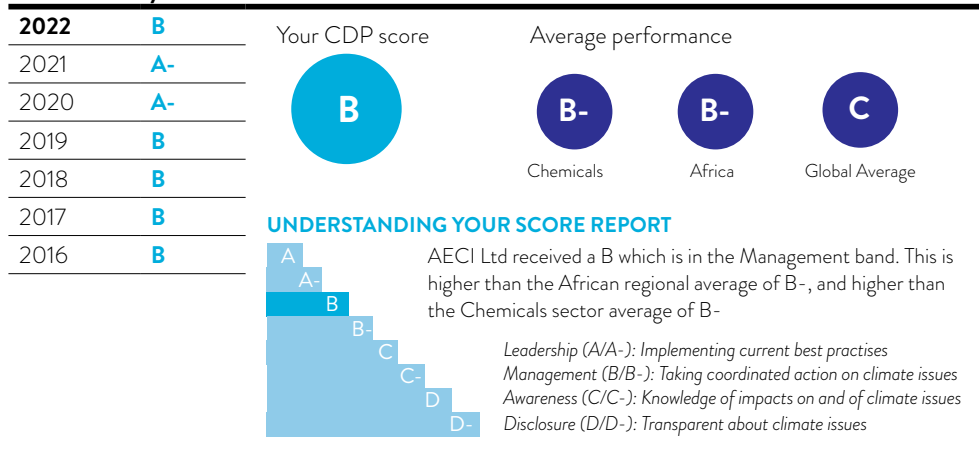
## Climate response CONTINUED

### CDP WATER SECURITY

Our CDP Water Security score was in line with the average performance globally and in the global chemicals sector, and better than the average performance score for companies on the African continent.

We will continue to take coordinated action on water security issues, with a focus on implementing of best practise.

#### Water Security CDP Scores



Areas of focus identified to drive further improvement in our CDP Water Security performance include:

- Water-related risk exposure and responses
- Water-related policies
- Business strategy
- An integrated approach to environmental challenges

### Climate change mitigation and adaptation response

We fully endorse the global recommitment made at COP27 to do everything in our collective power to get as close as possible to the 1.5°C limit on the increase in global temperatures as agreed at the time of the Paris Agreement.

Our own response to this highly pressing issue is through an approach that considers mitigation measures as well as adaptation. Mitigation centres on reducing current and future emissions and on stabilising the level of heat-trapping greenhouse gases in the atmosphere. Adaptation refers to the processes and actions required to adapt to life in a changing climate and adjusting to the current and expected future climatic norms.

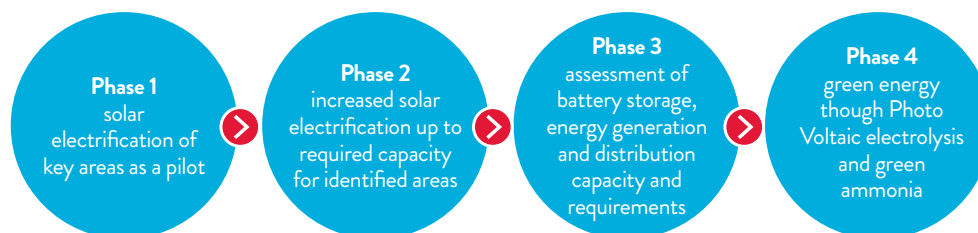
### CLIMATE CHANGE MITIGATION

Mitigation – reducing climate change – necessitates reducing the flow of heat-trapping GHGs into the atmosphere. This can be achieved either by reducing the sources of these gases e.g., burning of fossil fuels for electricity, heat, or transport. Alternatively, enhancing the ‘sinks’ that accumulate and store these gases e.g., the oceans, mangroves, forests, and soil. According to the Intergovernmental Panel on Climate Change, the goal of mitigation is to stabilise GHG levels in a sufficient enough timeframe to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.

#### SOLAR PROJECTS

In 2021 the AECI Executive Committee approved capital expenditure for Phase 1 of a four-phase solar programme which aims ultimately to generate 14 313 927 kWh per annum of solar powered electricity for selected group operations in South Africa. Specialists were appointed to oversee construction and commissioning of the installations at three sites. Phase 1 was 90% completed in 2022 and it is projected that initial generation of solar-powered electricity will come online during 2023.

The four phases of the solar programme are as follows:



Civil preparation



Panelling and cable racking near completion on most roofs



Climate response CONTINUED

A brief overview of the three pilot sites that will be commissioned in 2023, with their initial capacities including progress and challenges encountered is provided below:

Site	Chempark	Sasolburg	Modderfontein
Status	Requirements identified to undertake maintenance and structural work on roofs before installation could begin. Seasonal rainfall caused a short delay in construction during November and December 2022. With zero harm always the overriding imperative, the delay was necessary to safeguard the safety of onsite contractors and AECI staff.	Civil engineering, structural and security work commenced in October 2022. Challenges encountered included high groundwater levels and the need to obtain municipal approval to connect the solar installation to an on-site Eskom substation.	Civil engineering and structural work started in July 2022. Bulk earthworks began in December 2022. Additional drainage works were required. A new supplier of inverters was also required.
Capacity	1 846 232 kWh PER ANNUM	3 798 926 kWh PER ANNUM	8 668 769 kWh PER ANNUM
Expected Commissioning	2023		

## BIOGAS

Through a partnership with Anchor Yeast, 100% of the energy produced by AECI Property Services' boiler station in the Umbogintwini Industrial Complex in both 2021 and 2022 came from biogas. An anaerobic digester plant installed by Anchor Yeast in 2019 processes effluent from its yeast manufacturing plant, producing methane-rich biogas for steam generation. Use of coal at the boiler station has ceased and the boiler currently operates at 42% of its installed capacity.

## ENERGY CONSERVATION

The current energy shortage in Germany, as a consequence of the Russia-Ukraine war, has prompted the German government to call for greater energy conservation. AECI Schirm is a toll manufacturer of plant protection products and fine chemicals. The business has four sites in Germany. To mitigate the negative effects of the energy shortage, AECI Schirm has used heating control measures at the Wolfenbüttel site. These measures have been applied on the plant process system so as to reduce the maximum room temperature by an average of 2°C. Given that the space affected is approximately 34 000 m<sup>3</sup>, the intervention made it possible to save approximately 250 000 kWh in 2022 at this site alone. At the Schönebeck site, there was a 6.2% year-on-year reduction in electricity consumption.



AECI Schirm Schönebeck site

# Better Mining

## UN Global Compact and SDG Alignment

Across all countries in which AECI Mining operates, the mining sector is a leading wealth generator, a major source of employment, investment and foreign exchange and among the top contributors to tax revenues. Minerals extracted from the ground and the products and energy sourced from those minerals are essential to all facets of human life.



Closed-dash loop recovery system

AECI Mining Explosives and AECI Mining Chemicals in a three-way partnership with the customer covers the full value chain – from surfactants for explosives manufacture, initiating systems and cutting-edge blasting solutions, right through to chemicals for ore beneficiation and tailings treatment. These two businesses are at the heart of mining's value creation in 22 countries where we have operations and, increasingly, are using our science, technology and industry experience to move the sector towards zero harm and make mining more circular and safer.

In transitioning our customers to zero harm, we use our unmatched digital capabilities and the proven strength of our continuously evolving technologies to drive the cleaner, less harmful future of mining. This is achieved through:

**Better Blasting** – targeting the sustainable, responsible and reliable use of explosives with industry leading customised solutions.

**Better Chemistry** – combining best-in-class surfactant technologies and metallurgical chemicals solutions.

Through several important measures and milestones, 2022 was a landmark year for AECI Mining's drive towards Better Mining. Projects taking the lead among these achievements were:

- The solid progress made on abatement of greenhouse gases and other emissions at our plants in Modderfontein and Sasolburg.
- The formulation of a baseline for calculating our Scope 3 GHG emission.
- Progressively investing R 184 million into emissions abatement installations (achieving an 80% reduction in plant emissions by the end of 2022) as follows:

TWO NITRIC ACID PLANTS  
**R 107 MILLION**

TWO AMMONIA NITRATE PLANTS  
**R 37 MILLION**

AMMONIA NITRATE SOLUTION PLANT  
**R 6 MILLION**

PETN PLANT  
**R 3 MILLION**

STILLS PLANT  
**R 31 MILLION**

## Better Mining CONTINUED

For more than a decade we have been recognised as the chemical sector's leader in implementing abatement solutions at our own facilities. We became first movers in this regard as far back as 2006, at the time implementing technologies that were not available in South Africa. In the process, we have pioneered multiple applications and processes that have been adopted and amended by others in our sector, including customers, suppliers and competitors.

## Scope 3 emissions

Reliable Scope 3 calculations are not only a business requisite of growing significance, doing so is a competitive differentiator for AECI Mining as many of our products and systems enable our customers to reduce their own carbon footprints.

In 2022, we estimate that our products and systems saved our customers in excess of 55 000 tonnes of their own CO<sub>2</sub>e emissions. This was achieved through clients consuming less diesel and other fuels by using our products, and by reducing waste sent to landfill. These estimates will be refined under our newly developed Scope 3 calculating capability from 2023 – and reported to customers and other stakeholders.

### BETTER MINING IN PRACTICE

A product that substantially reduces customers' GHG emissions and saves them financial capital is our **Emulsion Vertical Drop System (EVDS)**.

The EVDS allows emulsion products to be delivered directly from surface to underground workings at depths ranging from 35 metres to almost 1 000 metres. The system removes the need for much of the equipment traditionally used to transport product from the surface to a mine's respective workplaces, in the process reducing emissions, fuel and electricity consumption.

Data from one mine deploying the EVDS reflects 90% shorter tramming distances, 71% lower tramming times and a 14% reduction in the engine running time of mobile charging units (MCUs) as well as a 12% reduction in fuel consumption. This project is now in the process of being replicated in other parts of the business.

## Used fuels for explosive formulations

A decade ago we began replacing virgin oil with recycled oil in our emulsion manufacturing process, creating a closed loop system. Since 2021 our Indonesian customers have brought used oil from their trucks' gearboxes, maintenance yards, mechanised mining units, tractors and forklifts to our sites to be used as inputs to manufacture emulsions.

Used oil contains multiple elements that are harmful to the environment and handling this waste in a cost-effective and environmentally friendly way is always challenging, especially in countries where safe waste disposal mechanisms are not available.

To end 2022, AECI Mining Explosives had recycled 2 525 000 litres of used oil, avoiding the need for such oil to be treated elsewhere or disposed to landfill. Without reducing the bulk explosives' performance, the consumption of used oil in our Eco series replaces diesel which would otherwise be used in the manufacturing process.

Employing used oil in emulsion manufacture is done by South African customers and, increasingly, by AECI Mining customers internationally. One such international customer, Indonesia's PT Kaltim Prima Coal has been following this methodology since 2011, progressively ramping up the use of used oil to 100%. In 2022 the open pit coal mining company saved some 2.3 million litres of diesel as a result.

## Renewable energy

Consideration of renewable energy supply is not only about reducing our Scope 1 and Scope 2 footprints but is also about addressing security of supply at our manufacturing facilities. With this in mind, AECI Mining will benefit from daytime solar savings as a result of planned solar installations at its facilities in Modderfontein (4 MW installation) and Sasolburg (1.5 MW installation). Both projects remain on track for completion during 2023.





## Practising what we preach

### THE PROJECT: CLOSED LOOP EFFLUENT RE-USE

The AECI group is committed to reducing our dependence on potable water by 25% in 2025.

In 2020, we acquired the Dinacon business located in Lorena, São Paulo province. In line with our sustainability goals, the plant embarked on an initiative to ensure that it operated responsibly, implementing a closed loop system to re-use effluent generated in the manufacturing process. This is a step towards moving away from historical technologies used at the facility prior to purchase.

Residual nitrate-contaminated water is directed to a natural filtration system and then re-used in the packaged explosives plant's cooling bath.

The Lorena site also implemented a waste reduction programme aimed at reducing the hazardous waste generated on site. By improving plant efficiency and adjustments to the plant design the facility was able to achieve a 36% reduction in hazardous waste between 2021 and 2022.

### THE PROJECT: ZIMBABWE WASTE REDUCTION

Orbit pump stators are used in electric generators during emulsion loading. When MCUs undergo maintenance, stators become waste and are usually disposed to landfill. In Zimbabwe, adequate waste disposal sites for these items do not exist. As a result, the site has found an innovative way of re-using stators within the plant facility. In 2022, the AECI Mining site at the Zimplats Ngezi platinum mine in Zimbabwe launched a project to re-use spent stators generated by maintenance of the 16 MCUs in use. Up to 90 used stators are generated each year. Considering the mine's growth projections, this number is expected to increase.

Used stators are decontaminated as per AECI Mining's standards and kept in a salvage yard before being repurposed as poles for walkways and demarcations for parking bays. These used stators find a useful new application, assisting in preventing unplanned person-vehicle interactions. Neighbouring mining companies have expressed interest in also using stators for site improvements.



Orbit pump stator re-use, Zimbabwe

## Our solutions: delivering better mining

### MOBILE CHARGING UNIT ELECTRIC VEHICLE

In May 2022 AECI Mining Explosives launched South Africa's first electric mobile charging unit (MCU), following extensive development with Canada-based MacLean Engineering. The vehicle (dubbed 'MC-EV') will lower emissions and require less maintenance as well as reducing mine ventilation and cooling requirements while being safer to operate.

The MC-EV taps into existing mine electrical infrastructure, eliminating the need to run diesel engines with their associated heat and exhaust emissions when charging the rock face.

Data generated from the 'smart' MC-EV and telemetry technology enable monitoring of the machine's performance and efficiencies. Operational statistics can be captured, logged and shared across online platforms such as AECI Mining Explosives' integrated internal BlastHub software where data analysis allows evaluation of operations and offers the opportunity for strategic and predictive maintenance scheduling.

### EMULSIONS FOR EFFECTIVE UNDERGROUND BLASTING

Explosives emulsion formulations are carefully engineered to deliver precisely the right amount and kind of energy, to directly influence how rock fragments in a given geology. In 2022 AECI Mining Explosives successfully commercialised emulsion formulations for 'hot holes' where ambient temperatures would normally make the use of such emulsions extremely hazardous. Not the least of the dangers of using emulsions in hot hole conditions is the potential release of nitrogen dioxide – which can be fatal if inhaled.

This technology was proven at naturally burning coal mines in Mpumalanga and put into regular use by a customer. Hot hole emulsions are capable of deployment in other mining environments and for other minerals.

### ALTERNATIVE BOOSTER/PRIMER TECHNOLOGY

AECI Mining Explosives began commercial production of PowerBoost® in 2022, the first booster technology of its kind and one that revolutionises the safe manufacturing and transport of mining boosters (also known as primers).

For decades, boosters have been manufactured from pentaerythritol tetranitrate (PETN) and trinitrotoluene (TNT). The chemical make-up of these products has required sophisticated plants and specialised raw materials facilities for their manufacture, and safety has been a constant concern. PowerBoost® is manufactured from two non-explosive raw materials. This allows for the manufacture of explosives products in a considerably safer and more sustainable manner. By end-2023 we estimate that PowerBoost® will account for 70% of all booster sales in the territories in which we market these products.

### WASTE FACILITIES

A non-hazardous waste recycling facility was opened at our Sasolburg site in May 2022. The facility recycles all plastics, paper, boxes, tins and polystyrene – an average of seven tonnes of waste per year.

The AECI Mining Modderfontein Waste Recycling Facility opened in November 2021. The facility has become a fast-moving hub for sorting and separating recyclable waste from the site. Waste streams currently being recycled include plastics, cans, paper, cardboard, glass and food waste. This will contribute substantially to achieving our goal to reduce waste to landfill by 30% by 2025.

## Digitalisation

AECI Mining Explosives is exploring a range of technologies to help mines improve their blast planning, initiation and analysis, using a range of digital tools such as digital twin, blast design, smart mobile manufacturing units (MMUs), virtual reality, digital classroom and automated supply chain.

### BLAST DESIGN

Blast design involves putting a great deal of disparate data generated by multiple software programs into a single repository. The objective with blast design is continuous improvement in business intelligence, field applications and operational transparency.

BlastHub™ is a portal that provides predictive software tools that identify and eliminate inefficiencies in the design process. The vision is to get to a closed performance and development review loop, linking products to performance via the cloud. In 2022, BlastHub™ enjoyed increased uptake among customers in a variety of mining sub-sectors.

### SMART MOBILE MANUFACTURING UNITS

AECI Mining Explosives' smart MMU system is a bulk explosives delivery vehicle capable of wireless data communication, including GPS positioning of blast holes. This technology allows for delivery of explosives in hazardous environments through application of remote controlled and propelled delivery systems. It also offers advanced loading capabilities. Developed in-house, this industry leading technology has been available to the market since 2022.

### AUTOMATED SUPPLY CHAIN

AECI Mining Explosives' supply chain focuses on a single web-based exchange portal to facilitate mobile proof-of-delivery solutions, real-time material flow, silo monitoring and transport management to enable the three-way match of purchase orders, delivery notes and invoices. It also includes 'track and trace' on a global scale.

### DIFFERENTIAL GPS (dGPS)

Part of the AECI Mining Explosives IntelliShot® system, dGPS helps to eliminate human error from incorrect blast hole identification or incorrect delay assignment. Incorrectly marked blast holes result in improper blast timing, which compromises blast results. By using dGPS technology, customers enjoy faster blast deployment, greater accuracy and increased efficiency. dGPS also reduces risks to community members living close to opencast mines – advancing Zero Harm. dGPS was used by a growing number of opencast customers in 2022.



# Better Water

## UN Global Compact and SDG Alignment

AECI WATER focuses on supporting precautionary measures to environmental challenges and promoting responsible use of scarce environment resources such as water. AECI WATER is focused on the provision of clean drinking water to our customers and to underprivileged communities.



AECI Water delivers sustainable solutions and provide integrated water and process treatment solutions for a diverse range of applications including public, mining and industrial water. The business provides chemicals, equipment and value-added solutions to municipalities, water boards, schools, communities, mines, farms and industry. All at AECI Water embrace the group's core sustainability goals of extracting value and enhancing environmental and social benefits by working with industry to re-purpose wastewater streams and minimise potable water usage.

**OUR GOAL IS**  
**50**  
**SCHOOLS**  
**IN 5 YEARS**

**OUR GOAL IS TO**  
**REDUCE/REPLACE**  
**2 BILLION LITRES OF**  
**POTABLE WATER IN THE**  
**PRIVATE INDUSTRIAL**  
**SECTOR IN 5 YEARS**

**OUR GOAL IS TO**  
**PROVIDE 1 MILLION**  
**PEOPLE WITH POTABLE**  
**WATER IN 5 YEARS**

**OUR GOAL IS TO**  
**REDUCE/REPLACE**  
**2 BILLION LITRES OF**  
**POTABLE WATER IN**  
**THE MINING SECTOR**  
**IN 5 YEARS**

**OUR GOAL IS TO**  
**REDUCE/REPURPOSE**  
**1 BILLION LITRES OF**  
**LIQUID EFFLUENT**  
**DISCHARGED BY**  
**INDUSTRY IN 5 YEARS**

We pursue **BETTER WATER** by striving to achieve three outcomes:

- **Securing the availability of potable water for our surrounding communities**
- **Improving water conservation by using alternative water sources**
- **Lowering effluent discharges through re-use solutions**

We use our know-how and products, our people, partnerships and systems to achieve these outcomes in our own operations and, especially, for our customers and communities.

## Securing the availability of potable water

Many South Africans still do not have adequate access to reliable potable (drinkable) water supplies. Through the AECI Community Education and Development Trust (CEDT) and working with key customers and stakeholders, AECI Water delivered potable water to more than ten schools and various villages in 2022. Our CSI initiatives and investments in the year provided over 50 million litres of clean potable water to learners and individuals in rural areas – clean drinking water that close to half a million people would otherwise not have had access to.



Our target is to supply potable water to 50 schools and **one million people** living in rural communities by 2025.



*Decentralised Surface & Borehole Water Treatment Skid*

The importance of clean water and sanitation as well as the use of alternative water sources forms part of our #OneAECIForABetterWorld sustainability drive. Surface and borehole water plays a key strategic role in supporting economic development and sustaining water security in several rural and urban settlements across South Africa as well as sub-Saharan Africa whom either entirely or partially depends on alternative water supply.

AECI Water developed a range of sustainable and decentralised surface and borehole water treatment skids in order to assist our partners and customers with making a difference by restoring a basic human right, the supply of clean drinking water in specifically schools and rural communities.

The decentralised surface and borehole water treatment skids are designed to filter alternative water sources such as borehole water. The treatment process comprises dual media filtration with disinfection and is designed to remove suspended solids, organics and odour to ensure compliance to drinking water standards. The filtration plants are able to treat between 20 000 and 50 000L/day of raw water, depending on water quality and availability (borehole yield).

**Achieving our goals will include:**

- **Activating CSI initiatives in collaboration with other key corporates and stakeholders**
- **Partnering with organisations including:**
  - Large non-profit organisations addressing water security
  - Water Boards in our areas of operation
  - The South African Department of Basic Education
  - The Department of Water and Sanitation
  - Municipalities covering non-reticulated villages and areas without quality, reliable water

In 2022 AECI Water, in collaboration with the Water and Sewage Company (WASCO), a parastatal, designed and built a water treatment plant to bring an additional 5 million L/day plant of potable water per day to the Maputsoe community near the Caledon River in the northern district of Leribe in Lesotho. The extra water volumes provided to the community will stimulate economic development in the area through textile factories and other community projects. In 2023, water will be abstracted into the plant which consists of sections performing abstraction, coagulation, clarification, solid/liquid separation, filtration and disinfection.



*AECI Water, water treatment plant in collaboration with WASCO, Lesotho*

**A second 5 million L/day** water treatment plant at Ha Belo in Butha Buthe, Lesotho is due to become operational towards the **end of 2023**.

## Better Water CONTINUED

### Improving water conservation

By 2030, South Africa is expected to have a 17% potable water supply shortfall. Yet most elements of industry, commerce and mining abstract water that does not need to be of drinking quality – and the recycling of fresh water is in its infancy.

#### REDUCING POTABLE WATER OFF-TAKE – INDUSTRY

We are working to achieve industrial potable water savings of 2 billion litres by 2025. By end 2022, we had reached around 10% of this target.

This included savings achieved at AECI Food & Beverage near Cape Town and at AECI Mining Explosives in Modderfontein outside Johannesburg.

#### REDUCING POTABLE WATER OFF-TAKE – MINING

South African mines consume as much as 5% of the country's potable water. Very little of this needs to come from systems supplying treated water to the public – and mines can do a great deal more to re-use the water they abstract.

By investing in water re-use and recycling solutions, increasing water efficiency, total water management, utility water management and zero liquid discharge, AECI Water guarantees that mining customers will de-risk their operations, achieve water independence, safeguard the health of employees and achieve regulatory compliance.

In 2022 AECI Water worked with a key mining customer to save over 400 million litres of water through the use of reverse osmosis technology. Fissure water is now successfully used as an alternative water source. Another such project within the mining industry is underway and expected to deliver more savings in 2023.

AECI Water saves water for the mining industry through the application of its proprietary **Scaltrol™** product range, saving more than **2,2 billion litres of water** for various mine operations in 2022.

## PRACTISING WHAT WE PREACH

### THE PROJECT

#### AECI Food & Beverage, Bellville, Cape Town

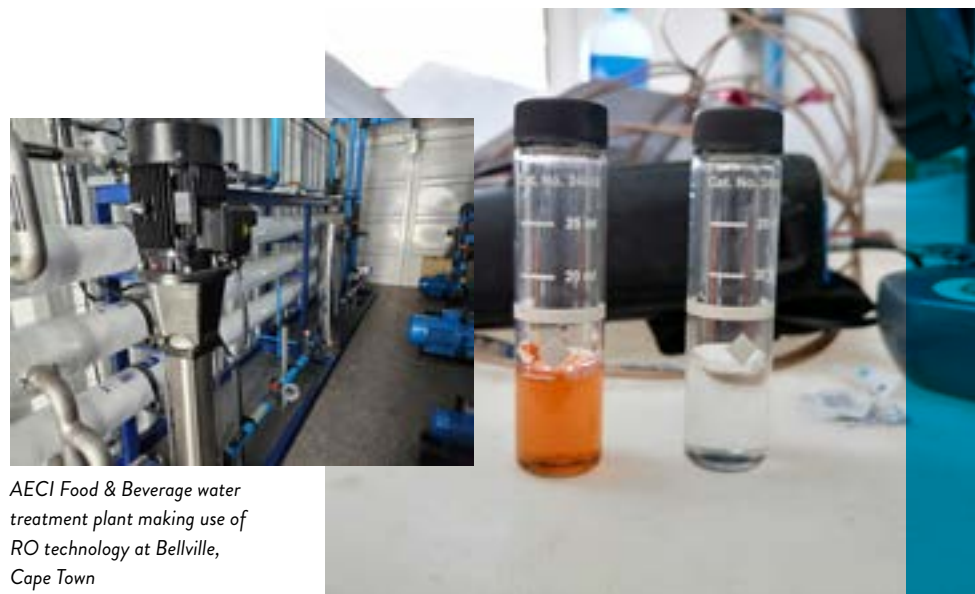
A water treatment plant designed to supply water from an onsite borehole, ultimately reducing potable water demand by almost 24 million litres per year. Carlo De Candia, AECI Food & Beverage National Operations & Technical Manager said: 'We are focused on Sustainable Solutions, this treatment plant allows us as AECI Food & Beverage to repurpose an alternative water source as a sustainable water solution – #MakingADifference.'

### HOW IT WORKS

Reverse Osmosis technology is employed to reduce the high dissolved iron and salt content in the borehole water. This treatment technology was used to ensure that the required treated water quality was met, thereby securing the optimal operation of the AECI Food & Beverage plant. The treated water is designed to meet potable water specifications (SANS 241: 2015).

### THE RESULT

By December 2022 the water plant at AECI Food & Beverage had already produced 1,5 million litres of potable water, working towards the 24 million litres-per-annum goal. The target remains to have all potable water used by the facility replaced with an alternative water source by end-2023.



AECI Food & Beverage water treatment plant making use of RO technology at Bellville, Cape Town

## THE PROJECT

### AECI Mining Explosives, Modderfontein, Ekurhuleni

Using processed sewage effluent (PSE) and cooling tower blowdown as an alternative water source to replace water extracted from the municipal system.

## HOW IT WORKS

Since the streams involved have different chemistry, various technology blocks were utilised to ensure proper treatment and long-term sustainability.

A 60 000 litres/hour treatment plant feeds treated water to the cooling towers and Demin plant for operation of the boilers.

The design incorporates the following unique technology blocks:

- Dissolved air flotation (DAF) technology. DAF units are used to reduce suspended solids and precipitated phosphates
- Ultrafiltration (UF) technology is used for the removal of turbidity, suspended solids, proteins, some viruses and most bacteria. The uniqueness of the submerged UF is that it can operate at a very low flux and, as a result, has a higher tolerance for suspended solids and oils. Submerged UF is used for waters with a very high suspended solid concentration and high bacterial count. The cooling system contains a high concentration of bacteria, surfactants, and suspended solids. The ZeeWeed™ 500D membrane ensures a particulate-free effluent. This method of permeation minimises energy demand and prevents particles from fouling and plugging the insides of the membrane fibre
- Another unique ultrafiltration technology consists of the AQUASOURCE™ filters that have a high tolerance for suspended solids and oils
- RO removes dissolved ions. The reverse osmosis section will have an overall water recovery of 70%

**Final treated water will be stored before distribution to the cooling towers and Demin plant at a rate of 45 000 litres/hr.**

## THE RESULT

The total savings on potable water usage for Phase 1 as a result of the treatment plant was 229 million litres in 2022. Reduced water usage was achieved through the availability of PSE and cooling tower blow down water. An environmental impact assessment has delayed Phase 2 of the project. It is envisaged, once Phase 2 becomes operational, that the 2025 target will be achieved.

## THE PROJECT

### AECI Industrial Chemicals, Umbogintwini, KwaZulu-Natal

AECI Industrial Chemicals' sulphur melting plant and sulphur dioxide plant at Umbogintwini south of Durban use, on average, 60 tonnes of steam per day. Most of the steam condenses and is collected, to be re-used in the plants' boilers. A project launched in July 2022 aimed to collect all the condensed steam for use in the plants' cooling tower.

## HOW IT WORKS

Condensed boiler water is collected and is rerouted to the cooling tower rather than being discharged as effluent. In doing so, this condensed water adds to the so-called make-up water used in the cooling tower, resulting in saving on the use of potable water.

## THE RESULT

The plant cooling tower water is dumped or blown-down when the conductivity exceeds 2 500 mS/cm. The project aim was two-fold.

- To reduce Cooling tower blow-down water due to high conductivity
- To reduce boiler feed water hardness

The condensate cooler was put online at the end of July 2022. All the condensate is now re-routed to the cooling tower.

The following changes were observed after commissioning the condensate cooler.

**Reduction of Tower water volumes:** Blowdown volume for 2021 was 7 901 million litres and for 2022 this reduced to 5 770 million litres. Despite the higher production rates during 2022, the reduced volume of blowdown is indicative of the effectiveness of the reduction in clean water usage.

**Less hardness in boiler water samples:** One of the other drivers of this project was to reduce the hardness of the boiler feed water from the demin bulk tank which was previously fed with water from the condensate recovery tank ie containing high salts and solids. This was achieved by diverting the condensate to the cooling tower instead of the bulk demin tank. Laboratory results indicated a reduction in the non-conforming (too high) hardness of the boiler water post the modification.

**Cooling tower and boiler feed make up water:** By using condensate which has a low conductivity to supplement some of the cooling tower fresh water supply, a reduction in make-up water was observed. In 2021 the average make-up water usage was 267 million litres/day which dropped to 177 million litres/day after commissioning the condensate cooler. An average saving of 110 million litres/day.

Chemical dosing (cost) was reduced and due to the reduction in water hardness, the potential for scaling of the boiler tubes was reduced.

### THE PROJECT

#### AECI Schirm cleaning water reduction, Germany

AECI Schirm produces a range of contaminant-free products at the highest quality, for a variety of customers (and products) using the same equipment. That means thoroughly cleaning equipment between each batch is a requirement. Such cleaning involves a great deal of water and cleaning agents – but how much water and how much cleaning agents are enough?

### HOW IT WORKS

In 2022 we set a target to reduce cleaning water and with this in mind, AECI Schirm began collecting detailed data on the amount of water and cleaning agents used and the equipment cleanliness achieved using various amounts of liquid inputs.

### THE RESULT

There was a reduction in 2022 of cleaning water at Baar-Ebenhausen site, down to 39 million litres from 326 million litres. There was a downstream reduction in non-hazardous waste from 205 litres per production order to 25 litres per production order, while the customers were still given verified data on production quality achieved.



Baar-Ebenhausen site

## PRACTISING WHAT WE PREACH

### THE PROJECT:

#### Umbogintwini effluent reduction, KwaZulu-Natal

AECI Property Services manages effluent on behalf of the Umbogintwini Industrial Complex tenants. This management is in accordance with the coastal waters discharge permit. Daily discharges to sea averaged approximately 3 684 million litres against a daily discharge limit of 6 000 million litres in 2022.

### HOW IT WORKS

Phase 1 of the AECI Water Umbogintwini Effluent Compliance and Reduction project will initially cut the amount of aluminium, iron, manganese, total suspended solids and oil in process effluent, preparing it for re-use in Phase 2 of the scheme. Recovered oil from the waste tank from Phase 1 will be benefitted by a specialist waste disposal company for re-use in its own internal processes. Phase 2 will focus on the re-use of effluent water, freeing up potable water for the surrounding community.

### THE RESULT

By the end of 2023, Umbogintwini's effluent discharge will have been cut by 75% – a reduction of 32 million litres a year.

Several smaller projects have already been implemented, including the re-use of brine water. This project adds a combined additional saving of 2 million litres of potable water per year.

## Reducing effluent discharge

Industrial processes generate enormous quantities of liquid waste (effluent). This is typically discharged to sewers, watercourses or sea with inevitable and usually profoundly negative impacts. AECI Water works with customers – both internal and external – to reduce, recycle and repurpose effluent.



Better Water CONTINUED

## Reducing water, dust, and particulate matter

AECI Water's road dust control treatment programmes are formulated to control fugitive dust from unpaved plant and mine ramps as well as haulage roads, enabling a reduction in the use of water typically used in these applications. The use of dust control products has many benefits linked to sustainability goals – reduced water usage, better visibility (and therefore safety), lower diesel consumption and reduced CO<sub>2</sub> emissions.

The business's patented antioxidants and binders for coal, as well as coal dust suppression additives, help prevent fugitive dust emissions and promote safe handling practices for coal mining, processing, transport and storage.

In November 2022, a road dust control project commenced at a 540 MW solar installation with completion date envisaged to be in the last quarter of 2024 (this is a solar plant still being build). AECI Water is undertaking the stabilisation of a 13 km access road and six laydown areas totalling 100 000 m<sup>2</sup>. At the end of December 2022 close to 800 tons of product were used for the stabilisation of the access road with another almost 900 tons of product used on the laydown areas for stabilisation.



*Dust control project at customer site*



*We continue to focus on research and product development to remain future-fit.*

# Better Food Systems

## UN Global Compact and SDG Alignment

AECL practices the development and diffusion of environmentally friendly technologies to enable food security.



‘Food security is the circumstance created when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences. Food security is impacted by the physical availability of food, the economic and physical access to food, food utilisation (the nutrient density of food and accessibility of these nutrients to the body) and stability of food availability, accessibility and utilisation.’ – World Bank.

One-ninth of the world’s population does not have enough of the food they need to live active healthy lives and nearly half cannot get enough healthy food because of food systems that prioritise calories over nutrition.

To address these issues, AECL is working to create Better Food Systems by helping farmers to increase and improve their agricultural output – and by helping food producers to make better, more varied, more nutritious foods at lower cost.

Our Better Food Systems goal is being achieved through six key focus areas. In each of these six areas in 2022, we took concrete action to help our customers produce more food to feed their communities:

- Improving yields through sustainable agriculture
- Improving agricultural water use
- Making farming more inclusive
- Making food healthier and more affordable
- Reducing food waste
- Ongoing CSI initiatives

### Improving yields through sustainable agriculture

AECL Plant Health invests heavily in research and development. It does so because its industry is highly regulated and it typically takes three to seven years to bring new products to market. We need to predict what products will be needed in future – and test products for efficacy, residues and potential to cause crop damage. Research and development is also prioritised to mitigate threats and maximise opportunities.

The challenges and opportunities in sustainable agriculture are being met with the following strategies:

- We formulate unique combinations of generic actives to differentiate our products
- We are developing products that are more specific in targeting pests and have lower environmental impacts
- In our markets we are at the forefront of efforts to develop agrochemical and biological alternatives to replace banned active ingredients
- New products are being developed to differentiate ourselves and add greater value to our customers’ farming operations

Key work now being done by AECL Plant Health is focused on:

- New products or products that can be extended for use in multiple crops
- Extending our pheromone range to other pests and crops – in particular tree nuts
- Simplifying product applications to reduce labour and other costs
- Developing plant extracts and biologicals to promote plant growth and control pests and diseases
- Developing new products to address emerging pests and diseases
- Fortifying crops against pests and disease using foliar feeds and micronutrients
- Improving systems to ‘chelate’ micronutrients to ensure their better delivery to crops



## Better Food Systems CONTINUED



AECI's Plant Health's, NuWay® is our response to applying a holistic solution to food security challenges. NuWay® is our primary driver to support the regenerative agriculture movement and encompasses multiple solutions. These solutions address threats such as:

- Degradation of soil
- Capturing carbon emissions
- Soil erosion
- Hazardous chemistry

All of these have impacts on the end product sold to the consumer. As such, our NuWay® approach to agriculture begins with an assessment of the farmer's soil. The AECI Plant Health Precision Science team can characterise and chart soil, and in so doing, optimise the farmer's planting, nutritional and chemical spray programmes. We seek to build healthy soils that better retain nutrients and water to buffer against environmental stresses and recycle nutrients from soil organic matter. These integrated solutions are enabled through technology to provide better value to customers through unique service offerings such as:

- **SupPlant a precision farming methodology enabled through sensory technology to optimise efficiencies in irrigation and nutrients required by both the plant and the soil**
- **Environmentally friendly product use that is fit for purpose according to each plant's unique requirements**
- **AgroScout – a service offering to use drones to monitor crops and assess any risks. This is supported by an Agro app where data is fed in to do predictive analysis**

- **This data is further integrated into crop strategy based on the PESTLE risk matrix, which enables the crop advisors to address crop management more proactively**

- **Emerging farmers are enabled to access markets through the Khula! App**

This holistic approach enables us to address the needs of the customer more sustainably and further empower them to maximise their yield and remain commercially viable.

In addition, this solution allows us to empower unemployed youth through a skills development programme which enables them to have 4IR skills and enter the workplace of the future through our AgroScout programme.

## Improving agricultural water use

SupPlant has established itself as the only tree telemetry technology solution of its kind in our markets, using artificial intelligence to monitor how fruit trees respond to farming practices and weather. Some of the largest fruit growers and estates in South Africa signed up with SupPlant in 2022, with installations on 13 farms and a total acreage of 1 085 hectares. To date, in excess of 1 000 hectares are covered on our customers' farms, and we anticipate exceeding 2 000 hectares in 2023, rising to 7 000 hectares by 2025.



SUPPLANT ACREAGE  
BY HECTARE 2021

**685**

CUMULATIVE SUPPLANT ACREAGE  
BY HECTARE 2022

**1 085**



## Reducing the need for chemical cleaning in food transport

We are the first in Africa to offer the eco-friendly, Mega-Inliner® supply chain system. Mega-Inliner® includes a bag and a tank container. The bag, which is 100% recyclable, is placed in the empty tank container for filling with any non-hazardous liquids. Since all the liquid goes in the bag, the tank container stays clean with no wear and tear eliminating the need for cleaning chemicals, facilities and personnel. This results in significant water savings and safer operations. Uptake for Mega-Inliner® is forecast to continue to increase in 2023.

Without Mega-Inliner®, approximately 2 000 litres of water are used to clean a single tank container. With Mega-Inliner®, up to five billion litres of water could be saved around the world every year. **This is enough water for 300 000 people in Africa annually.**

Through Mega-Inliner®, in 2021, AECI Food & Beverage partnered with major customers and suppliers, and saved more than 225 000 litres of potable water. By the end of 2022, an additional 318 000 litres of potable water had been saved.

Mega-Inliner®



## Making farming more inclusive

AECI bought an equity stake in the Khula! app in 2020 to help emerging farmers grow their businesses and to help the group reach this important market segment. Khula! is a digital trading platform giving emerging farmers access to markets, finance and other services.

Farmers registered on the Khula! app grew 31% to 10 500 farmers in 2022. The intention is to have 50 000 users registered by 2025. Retaining confidence in the app, and usage, will require ongoing investment to ensure that users value its utility.



**khula!**  
MILKING TO GROW

### Number of farmers registered on the Khula! app

2025 TARGET

**50 000**

2022

**10 500**

2021

**8 000**

2020

**4 200**



Khula App Tools and platforms to support and grow your business in the agriculture supply chain

## Khula app tools and platforms support the agriculture supply chain

Our development work has resulted in the creation of our “Nyonga® Pack” range of crop specific input packs for smallholder farmers. The packs can be used for all crops and irrespective of the amount of land being farmed. The overall objective is to increase productivity in the smallholder sector, to deliver local economic development through the application of proven technologies, specifically the application of approved crop protection against weeds, pests and diseases, and against storage pests.

Through these crop-specific packs, AECI has demonstrated that safe technology can enable Malawi to achieve food security in the short term and further achieve production levels that would enable the country to increase its export market. Packs are safe to use as they are mono-dose packs that are suitable for knapsack sprayers or watering cans with no “carry-over” chemicals left in containers.

These packs have been formulated for the purpose of providing smallholder farmers with affordable, chemical inputs that will substantially improve crop yield and quality. Each pack also addresses the issues of safe use/handling and empty container disposal. They include disposable gloves, face mask, soap, measuring devices and a pictogram instruction sheet. We also provide training on safe and effective use of the packs.



Better Food Systems CONTINUED

## Making food healthier and more affordable

The group is committed to providing quality ingredients for the manufacture of low-cost, nutritious meals. Through culture technology, AECI Food & Beverage is instrumental in the production of Amasi (fermented milk) and Mageu (maize-based fermented products). We also supply ingredients for processed meats and bread which are staples for millions of the poorest consumers in our markets. A particular focus is producing ingredients for low-cost foods that boost their nutritional value but at limited or no extra cost to the cash-strapped consumer.

In 2022 our sales to this market segment **exceeded R 200 million** – up from approximately R 160 million in 2021. In 2023 we **hope to grow this segment to over R 300 million**.



TOTAL NYONGA  
PACKS SUPPLIED  
TARGET

**136 526**

2022

**115 700**

2021

**97 093**

2020

**52 976**

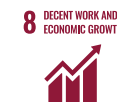


Food Security solutions is a key focus area of our CSI programmes.

# Better Chemistry

## UN Global Compact and SDG alignment

AECL supports a precautionary approach to environmental challenges.



The people, science and products nexus needs to be carefully balanced to manage chemistry better for the benefit of our customers, their customers, our communities and the environment.

## Reduce the hazardous nature and effects of chemicals

In 2022, AECL Plant Health rolled out the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) to all local in-house products for which local product registrations are held. The GHS is an international programme that was developed by the UN to address the classification of chemicals by type of hazard and harmonises hazard communication elements, including labels and safety data sheets. This process resulted in a total of 220 new product classifications.

An important component of this project involved the rolling out of a training programme during October 2022 which was aimed specifically at AECL Plant Health staff who, by virtue of the work they do, are expected to either handle or advise on products.

**To date, a total of 109 staff** across various AECL Plant Health sites have undergone training.

Additional GHS training programmes began in 2023, aimed at all crop advisors, growers, and farm employees. This training will cover various aspects related to GHS requirements and associated changes to product labels as well as the interpretation of pictograms and 'signal words' to ensure the safe transportation and use of all products. Area Meetings will be used as platform for conducting training for crop advisors while growers and farm employees will be briefed during 'farmers' days' and on-farm training sessions.

The application of the GHS aligns with the requirements in South Africa for the implementation of an effective regulation for labelling of agricultural remedies registered in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), which was introduced during March 2021. AECL Plant Health has submitted all new GHS classifications to the Department of Agriculture, Land Reform and Rural Development and is awaiting approval.



Training session with AECL Plant Health staff at Chloorkop site

## Making personal care greener

AECI Specialty Chemicals continues to work with suppliers to source materials that are sustainable. We offer innovative materials such as hydrolysed corn starch that can be used for hair styling and surfactants that are naturally sourced, biodegradable and mild on the skin with great cleansing capabilities. We also offer safe and greener preservative options that can be used in a wide range of products.

Our alternatives are kinder to the skin and environment. Due to cost constraints, green alternatives are still purchased at a slower rate, although, as end-consumers increasingly prioritise sustainability, the move towards greener materials is gathering pace.

## Making homecare greener

We continue to leverage our customer relationships to promote the use of greener chemicals in the manufacturing of homecare products in order to reduce water usage. This technology reduces water consumption by assisting in the breakdown of foam, thereby resulting in fewer rinses during the laundry cleaning cycle. AECI Specialty Chemicals also promotes the use of biodegradable rheology modifiers and the use of green surfactants. Although market uptake of green homecare products remains relatively slow, due to premium pricing, demand has increased in line with consumer education and environmental awareness.

## Helping industries green their operations

We are working hard to transition our own industrial processes to greener, more sustainable operations using our learnings and expertise. Partnerships with suppliers and customers are essential to our success in this regard.

Biodispersants are a critical component of a microbiological control programmes in open, evaporative cooling systems. Traditional biodispersants use nonylphenol ethoxylates (NPEs), which are toxic and persistent organic contaminants. More recent biodispersant developments make use of ethylene-oxide and propylene-oxide derived surfactants, which are less environmentally hazardous and more biodegradable than NPEs. However, the source of these surfactants is mainly derived from the petroleum and petrochemical industry.

From a health, safety and environmental perspective, customers are looking to move away from the use of hazardous and toxic chemicals



TONNES OF GREEN  
PERSONAL CARE  
PRODUCTS SOLD  
TARGET

85

2022  
50

2021  
39

2020  
5



TONNES OF GREEN  
HOMECARE  
PRODUCTS SOLD  
TARGET

60

2022  
20

2021  
11

2020  
4

on their sites. 2022 saw AECI Water develop COOL-D33 biodispersant, a new product in response to ongoing shortages in the supply of ethylene-derived surfactants from major international principals and as a 'green' replacement for conventional biodispersants. COOL-D33 makes use of 'green' raw materials, such as a non-petroleum derived surfactant, that are more readily accessible, are extremely cost-effective and provide the additional benefits of low eco-toxicity and are highly or completely biodegradable. Additionally, COOL-D33 provides superior performance as a dispersant for microbiological deposits, oil and suspended solids.

The primary target markets for this product are mining, industrial and power generation customers; specifically, all industries that make use of open, evaporative cooling systems in their processes.

**We have sold a total of 47 475 kg of COOL-D33 since July 2022 to date.**

## Reducing waste

Rather than reducing the world's dependence on plastics, global plastics production rose 4% in 2021 to an estimated 391 million tonnes – a market worth more than half a trillion dollars. According to a 2022 Organisation for Economic Co-operation and Development report, only 9% of plastic waste is ultimately recycled; 19% is incinerated and almost half is directed to landfill. The remaining 22% is disposed of in uncontrolled dump sites, burned in open pits or leaked into the environment.

In 2021, AECI Food & Beverage embarked on a waste recycling project at all four of its sites to redirect general waste from landfill into various recycling streams. The project was focused mainly on paper, plastics, cardboard, glass, steel and e-waste.

At the end of that year, AECI Food & Beverage extended this recycling project to manufactured food process waste and allied itself with service providers, Enviroserv and Interwaste, to redirect all general food waste to composting and animal feeds. In 2022 this programme was extended to all forms of packaging from production, warehouse and office sites.



#### Details of AECI Food & Beverage's 2022 recycling achievements include:

##### OLIFANTSFONTEIN FACILITY

Recycled 82% of its total waste stream, equating to 547 tonnes and a saving of R 350 000 a year. This saving is based on the cost saved per ton disposed, and current costs relate solely to the transport of materials to the recycling company, and not the actual disposal cost. The waste predominantly consists of production mill waste.

##### BELLVILLE SOUTH FACILITY

Recycled 79% of its total waste stream, equating to 567 tonnes with a recycling return value of R 611 000. This includes all site packaging waste as well as spoiled manufactured food materials.

##### LINBRO PARK

Recycled 15% of its total waste stream, equating to 7.7 tonnes. As the Linbro Park footprint consists predominantly of office space, the site only recycled paper and plastic.

#### PESTICIDE CONTAINER DECONTAMINATION – MALAWI

Malawi's agricultural sector accounts for more than 80% of that country's employment and of its foreign exchange earnings. As such, it is a major importer of pesticides – which means very large amounts of empty pesticide containers accumulating in rural areas and posing real and growing pollution and health hazards. Increasingly, countries importing Malawi's foodstuffs require the country to prove that pesticide containers have been safely disposed of.

In May 2022 the AECI-owned Farmers Organisation Ltd (FOL), a leading distributor of agricultural inputs opened a plant to decontaminate empty pesticide containers at its Karengo branch in Lilongwe, the first of its kind in the country. The project began with a comprehensive environmental and social management plan being submitted to the Environmental Affairs Department in the Ministry of Natural Resources and Climate Change for approval and a hazardous waste storage licence. The plant was designed, built and commissioned by AECI Water. Containers are recycled and sold to local plastics companies for the manufacture of construction materials including electrical and plumbing pipes. Non-recyclable materials are disposed of at designated dump sites or they are incinerated. Five people are employed directly on the site.

## Making roads greener

AECI Much Asphalt is the largest commercial asphalt producer in southern Africa, priding ourselves on the consistent quality of our wide range of hot and cold asphalt products, the service offering to large and small asphalt users, and our excellent safety record.

All asphalt pavement is recyclable and reusable. Recycled Asphalt (RA) is milled out of the surface layers of existing asphalt paved roads, after which it is crushed, screened and combined with virgin asphalt mixes for new surfacing applications. Additionally, all RA undergoes the same stringent testing and quality control as other asphalt products.

#### The advantages of RA include:

##### FINANCIAL BENEFITS

The reclaiming of asphalt material offers financial savings in material costs, including asphalt binder, energy costs and total job costs.

##### ENVIRONMENTAL BENEFITS

The aggregates and bitumen used in the production of asphalt are non-renewable and increasingly rare resources, with significant costs associated with the quarrying of aggregates and the extraction of crude oil from which the bitumen is produced. In addition to saving the cost and carbon emissions involved in extracting and transporting these raw materials, the re-use of milled asphalt saves on waste and landfill space. Bitumen has recently become particularly scarce in South Africa and has to be hauled long distances in some cases when local supply is unavailable to fulfil contractual requirements, adding considerably to the cost.

##### IMPROVED PERFORMANCE

The common misconception that recycled products are inferior has been disproved – in fact, studies have shown that mixes with RA produce improved performance to conventional mixes. Hot asphalt mixes containing RA have been shown to age at a slower rate than mixes with virgin materials. This is because the binder in the RA has already undergone oxidation, so the rate of hardening of the RA mix is slowed.



# Passionate purpose-led people

## UN Global Compact and SDG Alignment

AECI is dedicated to upholding the freedom of association and the effective recognition of the right to collective bargaining, including the elimination of discrimination in respect of employment and occupation.



We strongly believe that to deliver on our purpose, we must create a culture of high performance and inclusion. We must attract the right people and ensure gender equality as well as opportunity for professional progress. We must contribute to social stability by supporting communities in terms of education, youth development, health, well-being and development. Attracting, developing, deploying and recognising talent internationally will help us deliver 'One AECI, for a better world'.

'Passionate, purpose-led people' is one of our six strategic themes.



**We will nurture a high performance culture in an inclusive, purpose-led environment**



**BUILD an inclusive, purpose-led environment**



**NURTURE and develop our people and stakeholder relationships**



**INSTIL a high performance culture**

## Diversity, equity, inclusion and belonging

In support of our drive to ensure a diverse and inclusive AECI, we seek to:

- Create a safe and inclusive workplace for all employees through education, awareness and understanding
- Accelerate the promotion of an inclusive and culturally competent workplace
- Create transparent and fair people practices that enable a supportive, confidential and non-discriminatory environment
- Reduce unconscious bias and discrimination
- Reduce gender disparities
- Empower women with leadership skills to advance their careers
- Use education, awareness and understanding to reach our goals
- Create equal opportunities in AECI for people with disabilities and empower them with leadership skills to progress their careers
- Address environmental barriers and build a more accessible, safe environment for all
- Create a pipeline of talent for the future

We focus our efforts on two flagship initiatives – gender mainstreaming and disability awareness.

### GENDER MAINSTREAMING

To ensure a more equal gender mix in the AECI workforce, we have clear targets for 2025 for female representation in each of the following categories:

- **Board and top management: A target of 33% by 2025 has been set. Performance against this target was 38% in 2021 and 40% in 2022.**
- **Senior, middle and junior management: A target of 40% by 2025 has been set. Performance against this target was 30% in 2021 and 30% in 2022.** Our KPI for improving female representation at senior, middle and junior management levels is included as a priority KPI in the group's updated LTI scheme, which was approved during 2022. More information about the LTI can be found below and in the group's remuneration report.

## GENDER REPRESENTATION

	Total women representation	Women on AECI's board and in top management	Women representation in senior, middle and junior management
2025 target	–	33%	40%
<b>2022</b>	<b>1 705</b>	<b>40%*</b>	<b>30%*</b>
2021	1 688	38%	30%
2020	1 497	29%	29%

\* Indicates limited assurance

Our work to support and develop the leadership skills of women in business is centred on the following key programmes:

PROGRAMME	DESCRIPTION
<b>'Board walks'</b>	Nurture aspiring directors in senior management positions and help them unlock their potential. Allow these individuals to engage meaningfully with our executive and non-executive directors in special networking sessions.
<b>'Leader walks'</b>	Nurture aspiring leaders and help them unlock their potential in networking breakfasts that encourage meaningful engagement and dialogue.
<b>'Voices of change' events</b>	Themed 'She, He, We, is Power' we acknowledge that a collective effort is needed to harness diversity and build a more powerful, economically inclusive future.

In 2022, AECI group non-executive director Fikile De Buck and group CFO Aarti Takoordeen participated in both 'Board walk' and 'Voices of change' sessions. Their involvement provided great motivation and inspiration to more than 1 000 participants from around the world.

## EDUCATING, EMPOWERING AND ENGAGING OUR WOMEN

	Advanced women	Promoted women	Women enrolled in leadership programmes
<b>2022</b>	<b>39</b>	<b>31</b>	<b>47</b>
2021	26	29	46

## BROAD-BASED OWNERSHIP SCHEMES

### UPDATE ON THE AECI EMPLOYEES SHARE TRUST

The AECI Employees Share Trust (EST) has been a contributor towards the overall black shareholding of AECI Limited since 2012. From the time of its inception the EST has paid out R 34.5 million in dividends to all eligible beneficiaries.

When the Trust was formulated, it was expected to vest after its 10-year lifespan, but regrettably, the Trust has not yielded the anticipated value which was originally forecast for beneficiaries. If the share price growth had performed as forecast, it would have enabled the delivery of value to all beneficiaries of the AECI Employees Share Trust. It is regrettable that this was not realised.

In November 2021, the executive committee and board of AECI approved the extension of the Employee Share Trust term by another 12 months. This made it possible to pay beneficiaries an additional dividend of 50.5 cents per share in September 2022. Despite this extension, the Employees Share Trust did not yield any value to beneficiaries when the Scheme terminated in February 2023.

Our leadership have committed to delivering a measure of value to all eligible EST beneficiaries, as a gesture of goodwill, and remain committed to winding up the EST while continuing to drive our B-BBEE ownership goals.

In line with this, management and the board are working on the design and implementation of a new black ownership transaction that will incorporate learnings and improvements from the previous transaction. These plans are subject to strict governance processes, including regulatory obligations as well as extensive consultation with, and approvals by, the AECI board and other stakeholders.

### AECI COMMUNITY EDUCATION AND DEVELOPMENT TRUST (CEDT)

The AECI CEDT, a Broad-Based Ownership vehicle, also set up in 2012, has been instrumental in driving the social transformation agenda of the group. This trust was aligned with the National Development Plan of South Africa to address key socio-economic challenges such as water and food insecurity, youth unemployment and gender inequality. An independent outcomes assessment has shown that the programmes have been effective in achieving their goals of having a positive impact on beneficiaries' lives.

**Over 100 000 beneficiaries** across South Africa have been reached through the different programmes with an **overall investment of R 89 million** in programme spend. This trust vested in February 2022 in terms of the share conversion formula and is no longer a contributor towards black ownership at AECI Limited.



AECI Gender Mainstreaming Champion announcement 2022



AECI Team accepting Gender Mainstreaming Champion awards



During the year, AECI was recognised as the Gender Mainstreaming Awards Winner for 2022 in the following categories:

- **Empowerment of Women in Communities:** This award recognises and acknowledges organisations that have strategies in place for the empowerment of women-owned or managed businesses
- **Investing in Young Women:** This award recognises and acknowledges organisations that have implemented sustainable initiatives around poverty alleviation
- **Overall Gender Mainstreaming Champion 2022, Southern Africa:** This award recognises and acknowledges organisations that demonstrate good practice and excellence in diversity with an emphasis on gender mainstreaming

The receipt of these awards during 2022 demonstrates that we are making a real difference by empowering and uplifting women through our social responsibility programmes and management of our gender-related KPIs.





## REFLECTING RESPECT IN LANGUAGE

Respect, etiquette and good manners change the narrative, challenge stereotypes and promote an inclusive culture

**Here are some common offensive vs respectful terms:**

OUTDATED/OFFENSIVE	RESPECTFUL LANGUAGE
Emotionally disturbed	Person with an emotional disability
Deaf and dumb/deaf-mute/dumb	Deaf person (use capital D), Person with a hearing impairment, Person with a speech impairment or a non-verbal person
Retarded/slow/special/dumb	Person with a learning disability, intellectual disability, development disability / cognitive disability (pick which is relevant)
Psycho/crazy/mental/retarded	Person with a psychiatric disability / Person with a mental health disability
Wheelchair bound	Wheelchair user / Person who uses a wheelchair
Cripple/lame/physically challenged/handicapped	Person with a mobility impairment or physical disability
Dwarf/midget	Person of short stature
Victim/suffers from/stricken with	Person has a disability, has cancer, has motor neuron, has cerebral palsy etc. ie they have (specific disability)
Normal person/not disabled	Non-disabled person or person without a disability
Handicapped/disabled facilities	Accessible facilities
Mongoloid	Person with Down Syndrome

**ReThink DisAbility**  
Making AECI a great place to work for every employee

*good chemistry*



## DISABILITY IS JUST DIVERSITY

**Have you ever ...**  
found yourself feeling awkward, or worried about offending, when engaging with a person with a disability?

This comes from not being used to interacting with persons with a disability in everyday life, and from the stereotypes commonly associated with disability as a form of diversity.



### So let's shift the narrative with these etiquette tips:

- Use 'person first' terminology: i.e. person with a disability
- It's ok to offer help – that's just good manners ... but first check how best to assist before rushing in to help
- Never decide what a person with a disability is capable of doing based on their type of disability – they are the expert in their own abilities
- Remember that **not all disabilities are visible** – so don't judge the behaviours of others too quickly
- Persons with a disability are **not all vulnerable and emotionally fragile** – avoid condescending, paternalistic or pitying behaviours
- If you have to explore a person's disability for practical purposes (not just because you're inquisitive), then take care to **respect** their privacy and dignity the same way you'd appreciate being treated

**Want to know more?**  
Follow AECI's **ReThink DisAbility** Journey

Making AECI a great place to work for every employee

*good chemistry*



## DISABILITY AWARENESS

Our disability awareness campaign 'Re-Think Dis-Ability' aims to create an inclusive workplace for all through education, awareness and understanding. It also provides a clear process for employees to disclose their disability in a supportive confidential and non-discriminatory environment.

In 2022, we revised our policies and processes to ensure a sustainable shift in accommodating people with disabilities in the workplace. We held training sessions across our business with senior and middle management, diversity and inclusion, the teams and human capital teams.

Looking ahead, we will roll out training to the rest of our workforce to debunk myths pertaining to people with disabilities and align reasonable accommodation processes and increase disclosures.

We will launch our '**Re-Think Dis-Ability**' training modules on our learning management system to ensure easy access to all.



## Employee wellness

Good mental, physical and financial wellness can help employees cope better with stress, work more productively and realise their potential. In May 2022, we launched our 'Better You for a better world' initiative. It includes monthly awareness campaigns on topics such as dealing with anxiety and stress; cancer; ensuring healthy lifestyles; building personal resilience; and the dangers of substance abuse. In the year more than 4 900 employees participated in these campaigns: our people in South Africa, Zambia, Botswana, Burkina Faso and Indonesia were among the most active participants.

Each campaign aims to provide employees with skills and tools that promote good health and wellbeing. In so doing, each employee contributes to creating a healthy culture of learning, wellness, and support, thus enabling 'One AECL, for a better world'.

The 'Better You for a better world' initiative builds on our existing employee health and wellness offering, which includes physical screening and testing; lifestyle advice and guidance and free psychosocial counselling and support. The latter is available to all employees and their immediate family members telephonically, face to face, via email and on-site.

In October 2022, we launched our new employee wellbeing portal which was designed to provide quick and easy access to wellness content including financial wellness, mental health and physical wellness.

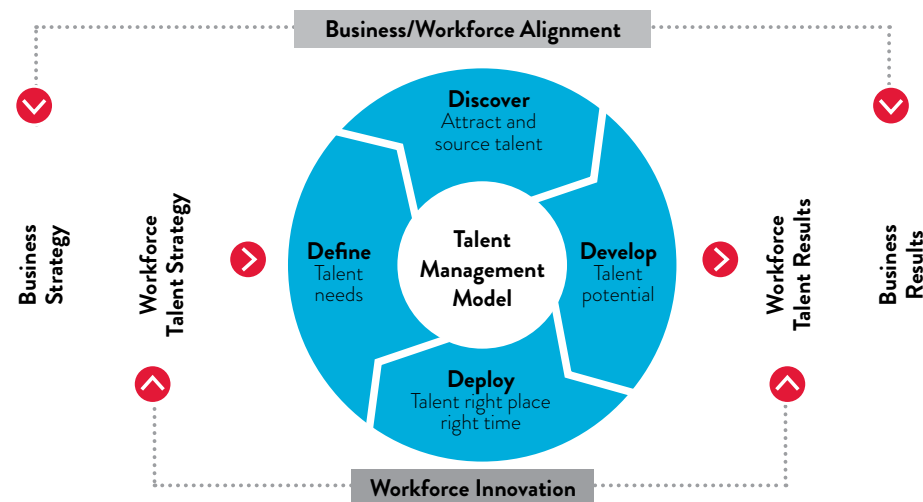
Marking World Mental Health Day on 10 October 2022, we ran a month-long mental health awareness and education campaign. This included workshops to help employees build resilience and cope with multiple demands and a video series with our leaders. As a part of the series, 45 employees shared with others the details of how they look after their mental health daily. This initiative played a significant role in reducing the stigma associated with mental health and assisted employees in seeking help and practising self-care.

A key financial wellness drive in 2022 was aimed at preparing employees for the often financially stressful December holidays. During November and December, we held budgeting workshops to help employees manage their finances more effectively over this period. We also offered employees free and confidential financial coaching.

Looking ahead, the 'Better You for a better world' initiative aims to reduce health risks, improve quality of life and enhance personal effectiveness among AECL employees.

## Fit-for-purpose talent

In the year we initiated the implementation of an integrated talent management approach complemented by robust performance management, learning and development, and succession management programmes, designed to enhance a culture of growth and learning.



## Performance management

In AECL performance management is viewed as the vehicle to build a culture of accountability, trust and empowerment. Managers and employees work together to plan, manage, monitor and review employees' performance for the achievement of the group's strategic goals and objectives. A comprehensive change management plan was implemented to ensure that the performance management process was well embedded. Training sessions were conducted for managers and socialisation sessions held on how to have courageous performance conversations.

## Passionate purpose-led people CONTINUED

Whilst some business are in the process of embedding the performance philosophy and process, other businesses embedded the process very successfully by implementing the full cycle from goal setting to year end conversations as per the below:



Comprehensive training was done with the Human Capital Business Partners, line managers and employees. E-learning is continually available for reference. Most businesses are using the system effectively and completed the online process up to Moderation (84%).

More training will be provided to support all businesses to be comfortable with having quality performance conversations and to utilise the system to support them with the performance management cycle.

## TALENT MANAGEMENT

The integrated talent management philosophy was cascaded to all businesses within AECL. It started with a socialisation session with the executive teams, followed by train the trainer sessions for the human capital teams and management levels.

A talent management playbook was designed and introduced. The talent playbook included tools to assist with talent and career conversations. The tools include the following:

- Integrated talent philosophy
- Define how AECL sees talent
- Define high performing employees
- Role of talent boards
- Talent profile
- Talent matrix
- Identification of critical and scarce roles
- Templates for succession management

Talent boards were conducted at least twice a year by most businesses within AECL. The talent boards actively discussed all the employees and their development and career prospects. Succession discussions focused on middle and senior management. Robust plans have been put together and will be implemented in 2023 with continuous monitoring.

## EMPLOYEE ENGAGEMENT

One of the top priorities in AECL is having passionate and purpose-led people. We measure the climate and engagement of all staff through an employee engagement survey. The 2021 survey highlighted areas of strength and areas for improvement across the company. The four main focus areas were identified as: leadership communication, inclusion, growth and reward. Focus groups were conducted across all businesses in AECL and action plans, owned by the executive teams, were put in place. Some of the initiatives that were implemented are as follows:

- Townhall sessions – executives conducted townhall sessions with employees at all levels to listen to their concerns. Low-hanging issues were addressed immediately; these included coffee stations at plants and putting up TV screens to improve communication
- Supervisory skills training to enhance management skills
- Anonymous suggestion boxes to provide everyone a voice
- Active talent boards
- Performance and career discussions

A follow-up survey will be conducted in October 2023 to assess the impact of the action plans.



One Voice engagement survey journey starts



Passionate purpose-led people CONTINUED

## LEARNING AND DEVELOPMENT

AECI meaningfully impacts youth development through learnerships, internships, apprenticeships, work experience, scholarships and bursaries for young men and women from vulnerable and marginalised communities. These are also offered to unemployed youth for obtaining vocational qualifications related to science, technology, engineering and manufacturing and we place a special focus on people living with disabilities. In a number of rural areas, we have established mathematics and science centres to improve school education.

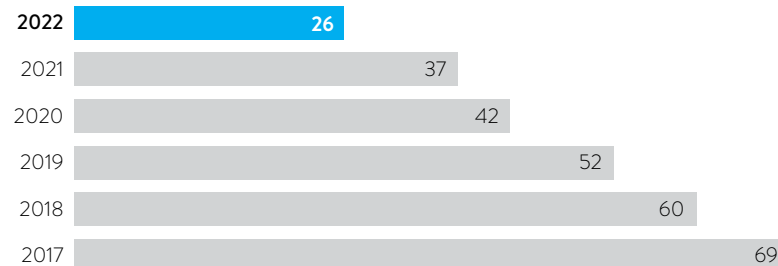
We offer employees funding assistance for tertiary studies to improve their educational qualifications. In 2022, 1 636 employees participated in at least one learning opportunity, 47% of whom were female.

	2020	2021	2022	COMMENTS
<b>Leadership development</b>	0 <sup>◇</sup>	142	<b>133</b>	Leadership development 2021/2022 intake was 142 and decreased over time due to natural attrition.
<b>Learnerships/ internships/ bursaries</b>	256	188	<b>376</b>	Beneficiaries increased significantly from 2021 to 2022 due to the business awareness campaign that was conducted by the group talent and organisational effectiveness team.
<b>Participation in at least one learning opportunity</b>	1 982	1 985	<b>1 636</b>	The total number of interventions conducted increased. However, the number of employees participating declined as training was focused on business-specific priorities.
<b>Female participation in at least one learning opportunity</b>	29%	27%	<b>47%</b>	Female participation increased in line with the talent management strategy and increased focus on diversity and inclusion. There was an increase in females participating in leadership development and learnership programmes.
<b>Employees living with disabilities</b>	89	66	<b>67</b>	Training for employees living with disabilities remained constant compared to the previous reporting period.
<b>Female employees living with disabilities accessing learning opportunities</b>	46%	67%	<b>64%</b>	Permanently employed females living with disabilities accessed learning opportunities (formal or informal). The drive to appoint people living with disabilities was positive with contracts being extended, enabling individuals to progress to the next level. The 5% decrease from the previous reporting period was a result of unavoidable learner resignations.

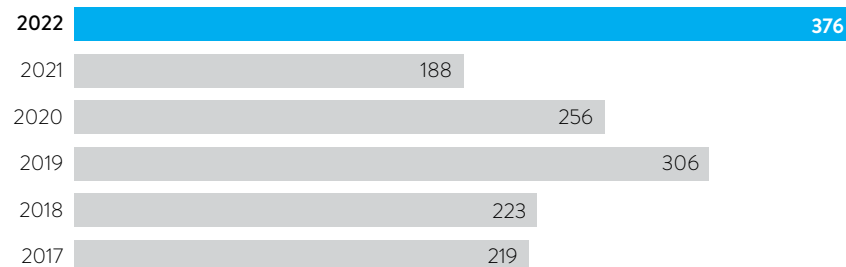
◇ In 2020 there were no Leadership Development Programmes as in person business school attendance stopped due to COVID-19.



### BURSARIES (EXTERNAL AND EMPLOYEE DEPENDANTS)

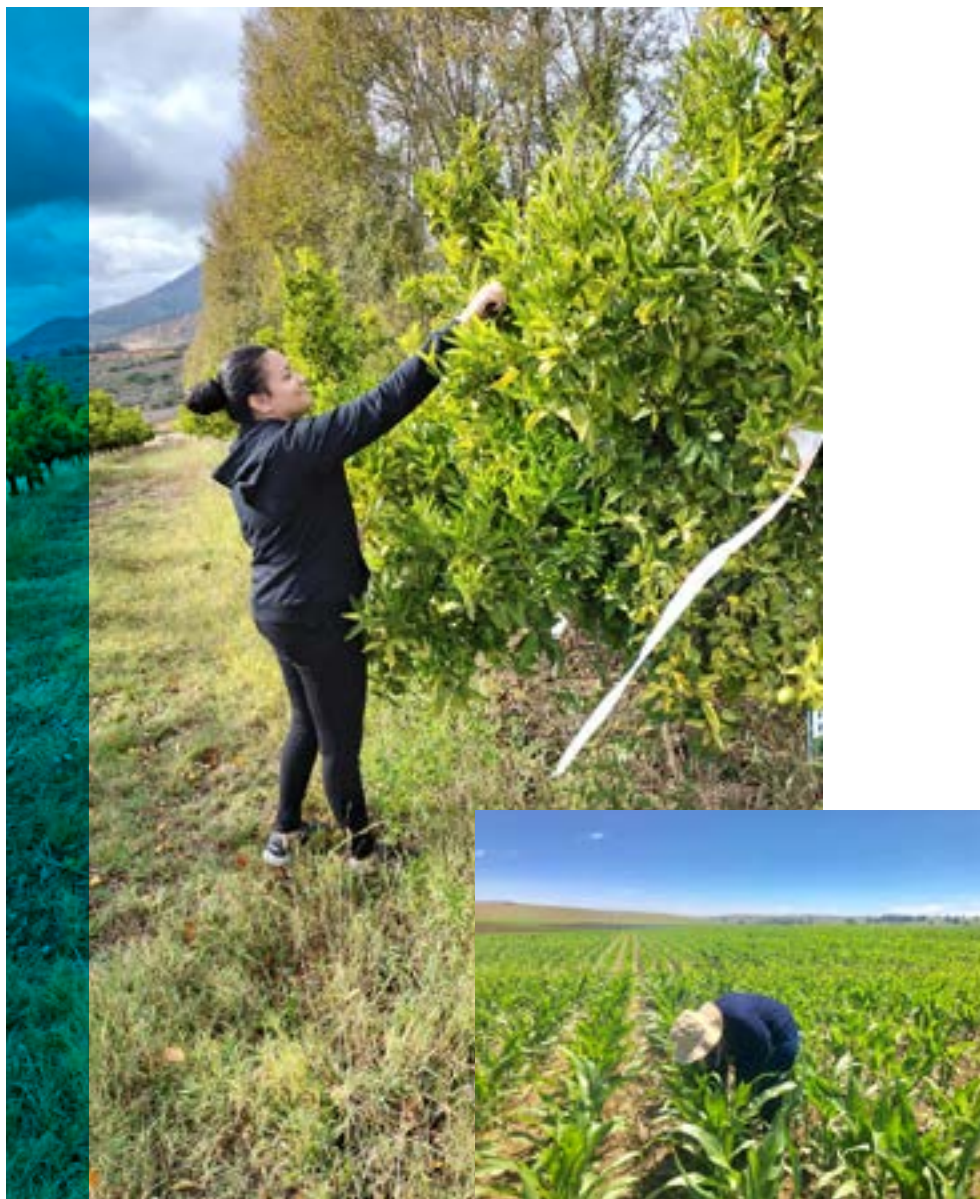


### LEARNERSHIPS, INTERNSHIPS AND BURSARIES



### NUMBER OF EMPLOYEES WHO HAVE ATTENDED LDP





Technical workplace training in business with qualified graduates during research trials

## LEADERSHIP DEVELOPMENT

Leadership development remains a priority for AECL and we continue to deliver bespoke programmes aimed at enhancing our current and future leadership skills and capabilities. This is in line with the Passionate Purpose-Led People focus area and is a key enabler to building leadership skills that will drive the sustainability of AECL and its future growth.

Our leadership development programmes includes all levels of management (foundation, middle and senior management) across the whole of AECL.

## LEARNERSHIPS

In 2022, we provided learnerships across the group, and enhanced our offering by creating curriculum-specific career paths for learners to increase the practical component of their training, thereby enriching each learner's qualification. This will continue in the new financial year as opportunities were identified across business operations.

## BURSARIES

**In 2022 we awarded 26 bursaries worth approximately R 1.9 million.**

We updated our policy for internal and external bursaries to make them more competitive and enhance the organisational value proposition. We continued to fund students at various universities and to offer workplace experience and opportunities for work during their vacations.

## INTERNSHIPS

We introduced a structured in-house programme which we piloted at AECL Plant Health. This was aimed at developing graduates with the intention to build business specific technical capability and a pipeline for business growth. The active participation of managers and mentors created a successful, productive and rewarding environment. Looking ahead, we will refine the programme, customise it for other businesses and focus on building our internal mentoring capability.

## AECL PLANT HEALTH PILOT PROGRAMME

With a March 2022 intake, the programme was carried out over 12 months and was structured to ensure that graduates had an opportunity to rotate across the technical areas of the business to fulfil specific tasks and research trials. Areas of exposure included laboratory research on product formulations (both agrochemicals and Biocult products), field trials as well as some sales.

This programme is building a solid pipeline of talented technical specialists who have good understanding of the business and will help drive the delivery of the strategy.

## Passionate purpose-led people CONTINUED

In 2022, more than 80 participants from the 2021/22 Foundation Managers Development Programme (FMDP) celebrated their graduation at a function hosted at AECI's Head Office in Johannesburg. The FMDP was delivered in partnership with the University of Stellenbosch Executive Development Business School. Employees from across South Africa, as well as the Democratic Republic of the Congo, Ghana and Malawi, Zimbabwe attended.

The objective of the programme was to provide participants with the knowledge and skills to integrate and synergise organisational activities. The common threads of self-awareness, people, and execution were covered in the programme. Participants were equipped with the confidence and capabilities needed to respond effectively to current and future business and leadership challenges. This include personal mastery and leading diverse teams effectively. The functional skills required in the areas of economics, financial acumen, people management, customer service and information management, governance and sustainability and ethics were also provided.

## TOP SYNDICATE GROUPS



Intake 1: Tau Eagles; From Left to Right John Mahlase (Human Capital Executive), Tsholofelo Mohale (AECI Mining Explosives), Ayanda Mndebele (AECI Head Office), Lwazi Zama (AECI Water)



Intake 2: Trail Blazers; From Left to Right Thinus Bierman (Executive Mining Chemicals), Nyasha Musata (AECI Chemical explosives-Zimbabwe), McChite Ngulube (AECI Water-Malawi), Kyle Govender (AECI Speciality Chemicals), Melville James (AECI Much Ashphalt)



Intake 3: The A-Team; From Left to Right Mark Kathan (Managing Executive AECI Mining), Sibulelo Mtolo (AECI Head Office), Adriaan Joubert (AECI Mining Chemicals), Nikita Lalla (AECI Mining Chemicals), Avashnee Devhiehund (AECI Mining Chemicals), Hilton du Plessis (AECI Much Asphalt), Sebuti Mphafi (AECI Mining Explosives)



Senior Managers Development Programme and Middle Managers Development Programme graduation celebration





AECl awarded Top Employer certification for the implementation of Best People Practices for 2022

### AECl TOP EMPLOYER 2022

For the third year running in 2022, AECl was recognised as a **'Top Employer'** in South Africa. We received recognition for our commitment to shape a better world of work for all our employees through our human capital policies and people practices.

AECl performed exceptionally well in the 'Unite' domain and the categories of **'purpose & values'**, **'ethics & integrity'** and **'diversity & inclusion'**. This is a significant accomplishment and is in line with our **'One AECl, for a better world'** purpose.

Being certified as a Top Employer showcases an organisation's dedication to a better world of work and exhibits this through excellent HR policies and people practices.

The Top Employers Institute programme certifies organisations based on the participation and results of their HR Best Practices Survey. The survey covers six HR domains consisting of 20 topics including people strategy, work environment, talent acquisition, learning, well-being and diversity and inclusion.

Top Employers Institute CEO David Plink says: 'Reflecting on the demanding year that has, like the year before it, impacted organisations across the world, AECl has continued to show that it prioritises maintaining excellent people practices in the workplace. They continue to meet the challenges of the changing world of work while working tirelessly to make a positive impact on the lives of their workforce.'

## Embedding environmental, social and governance into remuneration practices

During 2023, the board approved the integration of ESG performance into the group's LTI scheme in line with the group's commitment to sustainability and in response to feedback received from shareholders and other stakeholders.

The LTI scheme has been amended to adjust the weighting of financial performance metrics (TSR, RONA and **HEPS**) to **75%** with performance against a selection of **ESG metrics weighted at 25%**.

### The metrics included in the ESG element of the LTI:

- **Decrease in Scope 1 and Scope 2 greenhouse gas emissions**
- **Decrease in discharge to sea and sewer**
- **Increase in electricity from renewables**
- **Decrease in potable water consumption**
- **Gender Equality: Senior, middle and junior management levels**

Additional information about the group's remuneration practices can be found in the 2022 remuneration report.

**RR** Read more within our reporting suite

### STEER

Business strategy

Leadership

People strategy

### SHAPE

Organisation and change

Digital HR work

Work environment

### ATTRACT

Employer branding

Talent acquisition

Onboarding

### DEVELOP

Performance management

Career

Learning

### ENGAGE

Well-being

Engagement

Rewards and recognition

Off-boarding

### UNITE

Values

Ethics and integrity

Diversity and inclusion

Sustainability

Top employer certification key domains

# Enterprise and supplier development

## UN Global Compact and SDG Alignment

AECI believes that the future of economic development is vested in developing and fostering mutually beneficial partnerships to drive meaningful sustainable economic growth and job creation.



We are part of the fabric of the societies that host us wherever we operate. We seek to have a positive impact on our communities by

- Buying locally
- Increasing local content
- In South Africa, supporting smaller and emerging businesses through enterprise development and supplier development
- Practising preferential procurement

## Enterprise and supplier development

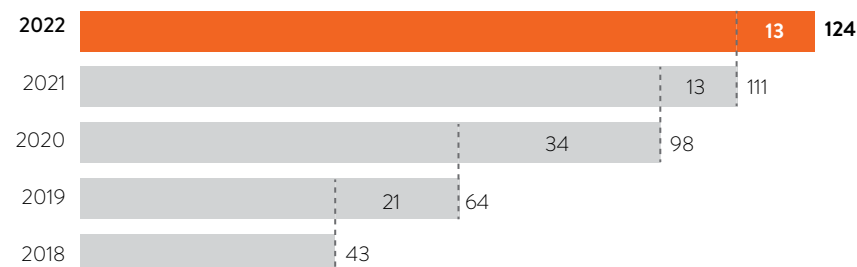
We undertake enterprise and supplier development (ESD) in three ways:

- Through the AECI Good Chemistry Fund, established in 2017 with capital of R 30 million
- ESD projects and investments run by our various businesses in South Africa
- Business Development Support

As at end 2022 the Good Chemistry Fund had invested **R 30 million in ESD through loans, equity and grant funding**. These investments had created and maintained a **total of 241 jobs**, both permanent and seasonal.

AECI also supports the state-run Chemical Incubator (Chemin), giving entrepreneurs access to a variety of services including laboratories, testing facilities, manufacturing equipment and office space. Incubatees are also able to obtain seed finance and collaborate with universities, industrial experts, financing agencies and government departments.

ADDITIONAL CUMULATIVE ESD SPEND BY BUSINESS



### ESD investment by industry (%)

	Agriculture	Chemicals	Construction	Engineering	Manufacturing	Recycling and waste management	Services	Transport
<b>2022</b>	<b>28</b>	<b>13</b>	<b>8</b>	<b>10</b>	<b>9</b>	<b>1</b>	<b>11</b>	<b>20</b>
2021	31	7	17	18	1	1	1	24
2018-2021	24	3	39	5	5	1	1	14

We target particular sectors due to their alignment with our value chains as well as enterprises in those value chains where we believe we can have the maximum impact.



## Enterprise and supplier development CONTINUED

In 2022 various AECI business units supported 14 SMEs operating in construction, engineering, agriculture and waste management. This is an additional spend of R 13 million (from other business units e.g. Property, Plant Health, Much Asphalt and Specialty Chemicals) aimed at diversifying our supply chain, supporting small business in the areas in which we operate, as well as creating jobs. The support given to these SMEs ranges from mentorships and grants to discounts on the purchase of products and the free use of AECI facilities.

AECI Plant Health supports emerging farmers through the Khula! app, training users on inputs to improve their yields and quality and to protect their crops. (Khula! app is an online platform that enables emerging farmers to purchase inputs and have them delivered. The app also gives beneficiaries access to markets to sell their produce.)

## AECI ESD programme

### GOOD CHEMISTRY FUND

The fund exists to strengthen and transform our supply chains by promoting qualifying Black-owned and SMME businesses.

To date, the Good Chemistry Fund has invested R 30 million in beneficiaries in Gauteng, Eastern Cape, KwaZulu-Natal, Limpopo and the North West. Fund performance since 2017 has been commendable with an impairment rate of just 11%.

**By gender, the above amount was invested as follows:**

- 44% went to Black women-owned businesses
- 56% was invested in Black male-owned businesses

**By ESD category, the above amount was invested as follows:**

- 62% was spent on supplier development
- 38% was on enterprise development

### BUSINESS DEVELOPMENT SUPPORT

AECI has partnered with LEAP (the Lean Enterprise Acceleration Programmes), an entity providing in-business support to SMEs with our partnership focusing on promoting entrepreneurship through access to markets, funding and operational support.

Today, two SMMEs are supported by the LEAP-ESD programme, namely Maano Chemicals and Farmers Hope. Together, they employ 12 permanent employees, seven seasonal workers and an additional three workers brought on by Farmers Hope during peak season. To date, R 5.68 million has been invested in these two beneficiaries.

Agriculture is an important contributor to growing economies and AECI has a lot of value to add through its products, as well as its people's know-how and experience. To help address challenges faced by SMMEs in the agricultural industry, we provide assistance on business fundamentals such as financial management and marketing, together with mentorship as the businesses mature. This is further augmented by solid technical and commercial expertise from the AECI business counterparts.

As part of our ongoing commitment to developing SMMEs, AECI is continuing with the Business Development Support in 2023. The year will commence with six SMMEs joining the first cohort for SMME business development in collaboration with other AECI business units. A second cohort and intake is planned for mid-2023.

### FOCUS ON SMMEs

#### MAANO CHEMICALS (CHEMICALS)

Founded in 2003 by Bongani Muda, Maano Chemicals is a 100% Black-owned business with 51% ownership and management held by women and employs seven permanent employees. The business is a chemicals distribution company based in Gauteng, sourcing chemicals from companies, including AECI Industrial Chemicals. It supplies these chemicals to various end-user companies including Eskom, Rand Water and City Power.

Maano Chemicals was supported with loan funding of R 4.8 million and business development services through LEAP. The LEAP support includes a sales and marketing strategy that will assist with the development of an online store.

#### FARMERS HOPE (AGRICULTURE)



Tebogo Nyathela  
– Farmers Hope

Founded by Tebogo Nyathela in 2016, this 20-hectare farm in the North West province specialises in crops (cabbage, garlic, peppers and spinach) and poultry. There are five permanent employees and seven seasonal workers, with three additional workers employed during peak season.

In April 2021, the AECI Good Chemistry Fund approved a loan facility of R 800 000 as well as a technical assistance grant of R 80 000, which was used to drill a second borehole. LEAP provides ongoing business support and mentorship.

Farmers Hope continued to receive business development support from LEAP in 2022. The business was also assisted technically by AECI Plant Health. In December 2022, with the assistance of the Khula! app, Farmers Hope passed the GLOBALG.A.P. (Trademark and Set of Standards for Good Agricultural Practices) audit which will allow the business to market its produce to large retailers.

#### IMILENATHI BUSINESS ENTERPRISE (CONSTRUCTION)

In 2022, AECI Much Asphalt identified cold mix asphalt as a growth area requiring focus with outsourcing considered the best way to deliver such product for pothole patching.

East Coast Asphalt (55% owned by AECI Much Asphalt), partnered with 100% black-owned Imilenathi Business Enterprise, to provide labour with East Coast Asphalt guiding the business on the sales process. A contract was entered into in terms of which Imilenathi will take over the entire cold mix packaging and sales process.

AECI Much Asphalt is working with Imilenathi to explore opportunities to expand to its other facilities nationally in the long term.

## WASAA LOGISTICS (TRANSPORT)



Established in 2018, Wasaa Logistics (Pty) Ltd is a 100% black women-owned logistics company focusing on bulk fuels and chemicals transportation within South Africa and the Southern African Development Community region. AECI signed a five-year contract with Wasaa Logistics in December 2021 to transport products for AECI Water, AECI Industrial Chemicals and AECI Specialty Chemicals. The estimated contract value is R 38.6 million over the five-year period. The contract is still in its initial stages and is yet to achieve its full potential.

The ESD team together with the procurement teams from other AECI Business Units are actively sourcing additional business for this SMME.

*Clement Ngwenya*  
– Operations Manager of Wasaa Logistics (Pty) Ltd.

## Preferential procurement

In recent years we have significantly improved our preferential procurement performance as measured by the B-BBEE Codes of Good Conduct – in 2017 we scored just 6.87 out of 27 points on this element. This rose to 20.73 points in 2021 but declined to 18.59 in 2022. Commodities such as ammonia and sulphur are sourced from limited supplier entities that do not have 51% black ownership. Due to this limitation, the possibility of sourcing from B-BBEE entities does not currently exist. By 2025 we intend to achieve 22 points with a focused drive to support majority black-owned SMMEs that can become part of our supply chains.

Procurement as measured by the B-BBEE generic code:

### Generic code (% achieved)

	AECI's supplier B-BBEE contributor status			
	Non-compliant	Level 1–4	Level 5–8	Not rated
<b>2022</b>	<b>26</b>	<b>66</b>	<b>6</b>	<b>2</b>
2021	30	57	8	1
2020	32	8	59	1

## LOCAL PROCUREMENT

We define 'local' procurement as those goods and services purchased, in South Africa, in the local municipalities in which we have plants/operations and in the case of international operations, in our host countries. We measure local procurement as a percentage of all goods and services bought including raw materials. Procurement includes traded raw materials, which normally exceed 70% of our cost of sales.

In 2021 we set ourselves a target of 25% local procurement. In that year, we achieved local procurement of 20%; this rose to 30% in 2022, following the more active and consistent application of our localisation policies. Revised targets are currently being considered.

## LOCAL CONTENT

The 2018 review of the Mining Charter required mining licence holders to meet specific transformation targets, with a requirement that they acquire local goods and services with local content exceeding 60%.

We engaged with the South African Bureau of Standards (SABS) to verify the local content of the goods and services we provide to our mining customers. We were among the first mining-sector suppliers to receive verification from SABS on our local content, confirming that at least 80% of our mining products were locally manufactured. The SABS verification remained valid in 2022.

## Our ESD outlook

Chemicals, engineering and agriculture will remain the cornerstones of our ESD strategy. We intend leveraging our existing relationships with the businesses and stakeholders of the programmes for our ESD undertakings and the good of our beneficiaries.

We will support more farmers and grow the amount of funding provided by the Good Chemistry Fund.

# CSI

## UN Global Compact and SDG Alignment

AECL believes that contributing to the empowerment and well-being of our communities is a critical for our social responsibility. Partnerships are the vital to achieve this goal.



## Addressing socio-economic challenges and enhancing well-being in our host communities

Our approach to the 'One AECL, for a better world' purpose is founded on providing support, improving quality of life and true empowerment through long-term sustainable initiatives. Our strategic imperative is to drive shared value and sustainability and address key development imperatives in the countries in which we operate.

Our strategic investments are based on an ongoing commitment to respond to current and emerging priorities in support of vulnerable communities. Our primary focus is on identifying and implementing programmes that will deliver positive impact and empowerment, creating shared value with our stakeholders.

This requires us to work in partnership with several stakeholders including various tiers of government, support services providers, community leaders and in some instances customers, suppliers and peers.

## Our CSI strategic intent

As a responsible corporate citizen, understanding and responding to the needs of our host communities and wider society forms a critical element of our social licence to operate. Our purpose-led corporate social investment programmes are aimed at the upliftment of these communities and other key beneficiaries as a means of delivering shared value to both AECL and its social responsibility beneficiaries and partners.

Each of our Social Responsibility projects is aligned with our priority SDGs. At the same time, we would like to mention that we indirectly also target poverty, health and well-being, education, gender equality, the provision of clean water and sanitation, inequality, economic growth and innovation.

## Socio-economic landscape and initiatives in 2022

The COVID-19 pandemic, left members of society in extremely challenging conditions. In addition, disruption caused by the devastating KwaZulu-Natal floods and lack of access to basic municipal services have left South Africa as the most unequal society in the world. Globally, issues such as climate change, inflation and political and economic instability have also had a severe impact on poverty. Socio-economic challenges such as unemployment, access to clean water, extreme poverty, access to basic education and food security have all increased in the last two years.



## CSI CONTINUED

**33** PROJECTS

**5.8%** INCREASE IN  
SPEND SINCE 2021

**R 3.2 MILLION**  
VALUE-IN-KIND

**66** COMMUNITIES  
SUPPORTED AROUND  
OUR OPERATIONS

**567** VOLUNTEERS

**160 000**  
BENEFICIARIES IMPACTED

**5** CAMPAIGNS

**547** JOBS CREATED

In 2022, we ensured that AECI addressed these challenges. In our efforts to create a positive and measurable impact, we addressed key socio-economic challenges such as:

- Food insecurity
- Provision of clean drinking water
- Skills development and upskilling
- Access to education
- Environmental conservation
- Access to primary healthcare
- Disaster relief

During the year, we invested a total of **R 36.2 million** in socio-economic development (2021: R 34.8 million). These investments were made up of:

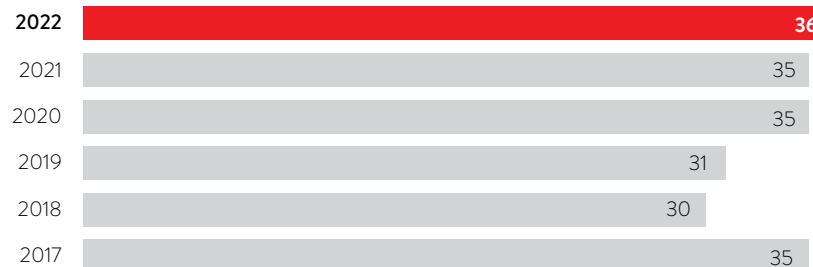
- **R 15.4 million** mandated spend (including value-in-kind) per the B-BBEE Codes of Practice in terms of the 1% NPAT for both the construction charter and generic codes;
- **R 6.1 million** from our international entities; and
- **R 14.7 million** disbursed by our community trusts

Through our socio-economic development vehicles, the AECI group CSI investments and initiatives (local and international) impacted over **160 000 beneficiaries**:

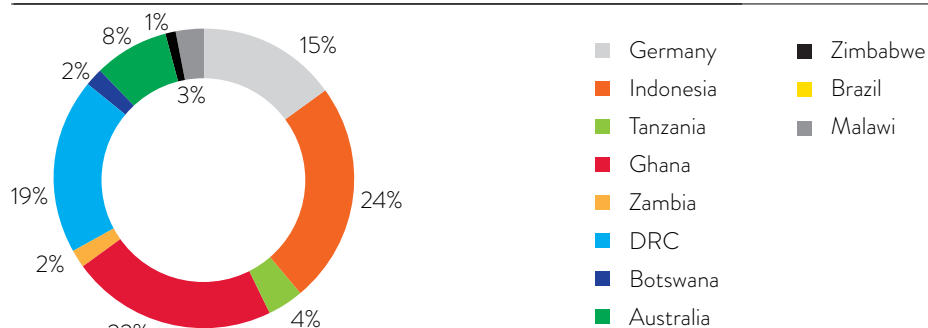
- Volunteerism by employees
- International CSI spend
- The extent of our geographical CSI impact
- Collaboration with business and key customers



### SOCIO-ECONOMIC CSI SPEND (RM)



### INTERNATIONAL CSI SPEND (ZAR)



## CSI LEGACY AWARDS

AECI was honoured in March 2023 with the award of 2023 Winner in the Best Corporate category at the CSI Legacy Awards, in recognition of our ongoing partnership with Oliver's Village, one of our flagship Social Responsibility programmes. These prestigious awards celebrate corporate social investment, as well as companies and individuals who have demonstrated exceptional commitment and leadership in their respective fields.

*AECI CSI committee members and management at CSI Legacy Awards*



## Partnerships and collaboration

Partnerships, collaboration and shared value to maximise our impact

AECI recognises that meeting our Sustainability goals can only be realised through meaningful, strategic, mutually beneficial partnerships. This approach enables us to collaborate with governments, non-profit organisations customers and civil society, to deliver greater social impact.

With the extreme socio-economic challenges, we are faced with globally, stronger partnerships that collectively contribute towards social, economic and environmental advancement are the driving force behind our Corporate Social Investment strategic intent.

Through mobilising resources, sharing knowledge, and building stronger capacity in the communities around our operations, we are able to deliver greater value and **provide sustainable outcomes to the most vulnerable.**



*KZN Flood Relief in collaboration with AECI Water and AECI Property*





1) ECD food garden 2) Community Water Collection Point  
3) Poultry Farm 4) Agricultural College and Education Centre

## Flagship project – Oliver's Village, Benoni

Oliver's Village in Benoni, South Africa is our flagship success story that relates to adaptation measures and empowerment. Since 2015, AECI has supported Oliver's Village, which is a self-sustaining community development project. This fully off-grid village provides a number of social services to more than 600 beneficiaries per day and is, in turn, supported by strong community commitment and integration. Key focus areas relate to causes such as early childhood development, maths and science education, computer training, food security and enterprise development. The property boasts food gardens and 300 fruit trees, and with fully functioning rainwater harvesting infrastructure and boreholes, all water needs are taken care of. The village is also energy self-sufficient, making use of both solar and biogas. There is an early childhood development centre catering to the needs of over 300 children, a comprehensive Maths and Science library, as well as a Maths and Science programme providing key Science, technology, engineering, and mathematics skills to 80 Grade 12 learners every year. The Village is also equipped with an off-grid computer centre where 60 computer trainees are trained every two months.

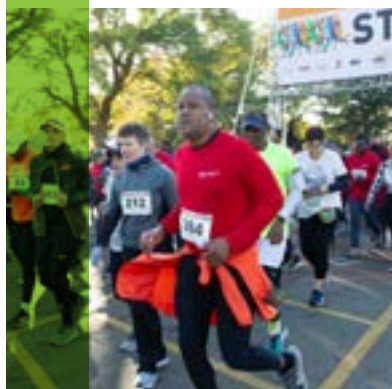
**In addition to continued support for the Village's existing soup kitchen, bakeries, computer centre and education facilities, our contribution in 2022 enabled the following:**

- **The establishment of a poultry farm that generates 55 eggs a day**
- **The establishment of a potable water access point for the community. This was over and above the rainwater collection infrastructure and borehole extraction facilities already in place**
- **Support for an agricultural academy that is Sector Education Training Authority accredited and will train up to 100 people in commercial agriculture**

In the current socio-economic climate in South Africa where we are faced with an electricity supply crisis, poor access to water, food insecurity, and extreme challenges related to education and income generation especially in poor and underserved communities, a programme such as Oliver's Village demonstrates that sustainable and resilient options are available. Many of the key initiatives that make Oliver's Village such a success have been and continue to be replicated in many communities surrounding AECI's global operations, with the commitment to seeking out opportunities to make the biggest impact and difference.



Leadership and employee participation in various initiatives on key celebratory days such as International day of Women and Girls in Science, Nelson Mandela Day, World Literacy Day, World Clean Up Day and International Volunteerism Day



## Highlighted CSI projects

AECI's Employee volunteerism programme has grown significantly post the COVID-19 pandemic and our employees have demonstrated great interest in getting involved in these campaigns. In 2022, the group ran five volunteerism campaigns planned around celebratory days linked to our key CSI focus areas. These were International Girl and Women in Science, Nelson Mandela Day, World Literacy Day and World Clean Up Day. Each of these volunteerism campaigns were coordinated by CSI Champions in business and deployed to adopted schools around our operations.

**A total of 567 volunteers** dedicated their time and skills which impacted **30 000 beneficiaries**.

**40** **INTERNATIONAL GIRL AND WOMEN IN SCIENCE**  
EMPLOYEES  
■ 10 schools  
■ Donations of mobile science kits

**48** **WORLD LITERACY DAY**  
EMPLOYEES  
■ 13 schools  
■ 8 operating companies participated

**12** **AD HOC INITIATIVES**  
EMPLOYEES  
■ Maths centre  
■ MyFuture/MyCareer  
■ Trio Academy

**383** **NELSON MANDELA MONTH**  
EMPLOYEES  
■ 8km run  
■ Head office – Random acts of kindness care bags  
■ AECI Mining food parcels for schools  
■ School Shoe handovers – 14 schools

**55** **WORLD CLEAN UP DAY**  
EMPLOYEES  
■ 3 sites  
■ Umbogintwini, Zamdela, Macassar  
■ PETCO  
■ Industry partners

**29** **SANTA SHOEBOX**  
EMPLOYEES  
■ Food and Beverage

## EMPLOYEE VOLUNTEERISM





## SOUTH AFRICA: PUBLIC PRIVATE PARTNERSHIPS TO ADDRESS EDUCATION CRISIS

During 2020, 2021 and 2022, AECI invested in a programme, Saving the class of 2022, #IntWithYou in partnership with Primestars and the Department of Basic Education. The campaign, #SavingTheClassOf2020 was a national call-to-action through which a Public Private Partnership was formed to get behind matriculants, who required additional support. The programme aims to bring under-resourced public schools back to centre focus for academic support, through implementation of new multi-platform hybrid approaches to Maths and Science revision in cinemas, rural schools, WhatsApp and online at [primestarsdigital.co.za](https://primestarsdigital.co.za).

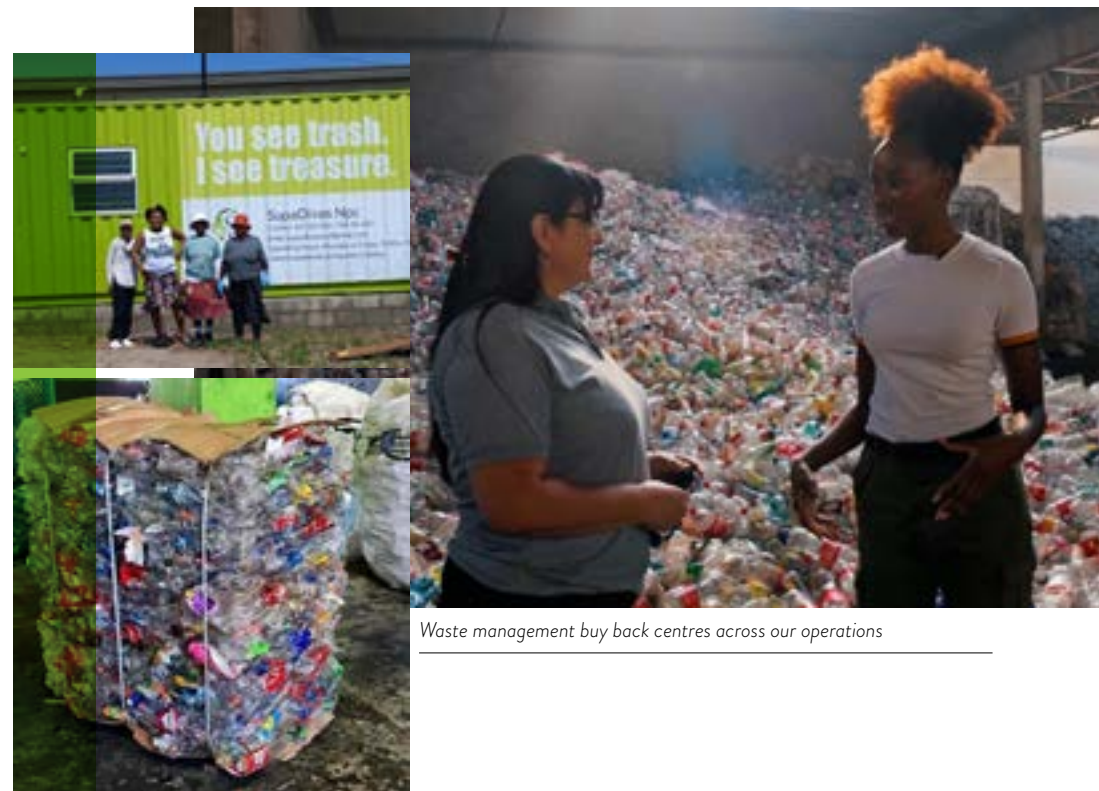
In 2020, over 30 000 matriculants from public schools across South Africa benefitted from the programme with the impact report demonstrating a marked increase of over 15% year-on-year in Maths and Science. During 2021, over 40 000 matriculants benefitted from the programme and based on post assessments, performed 10% to 12.5% better than the National Senior Certificate (NSC) average in final exam marks.

The 2022 academic year proved to be the best one yet for the programme with 27 959 attendances recorded. The minimum average mark improvement rose to its highest in six years with the Maths and Physics with participants demonstrating dramatic increases averaging over 16% above the National Average.

Through this investment we are able to contribute to the National Development imperative of our country. AECI intends to continue with partnership for youth empowerment into the future with a further focus on entrepreneurship.



Maths and Science cinema learning session



Waste management buy back centres across our operations

## SOUTH AFRICA: PETCO WOMEN IN WASTE MANAGEMENT

The AECI CSI fund invested in the development of small micro enterprises in the waste management business across our geographic footprint. Six women-owned eligible waste management micro enterprises specialising in recycling were selected to be developed, along with their entire value chain to become more functional and flourishing. The investment was aimed at upskilling these buy-back centres, equip waste pickers with the correct equipment and protective gear as well as provide equipment to each of these centres. As a result, 217 new jobs were created and there was an overall increase in waste volumes collected, resulting in higher incomes earned.

**R 800 000 invested in partnership with PETCO.**



## SOUTH AFRICA: KWAZULU-NATAL FLOOD RELIEF

Many communities in KwaZulu-Natal were devastated by severe flooding in April 2022. AECI was quick to react, providing much-needed emergency aid such as potable water, food, blankets and tents.

These relief investments, which included both immediate and long-term support, were specifically focused on communities neighbouring our operation at the Umbogintwini Industrial Complex (UIC), south of Durban.

Water tankers were put in place to fill the schools and community centre's JoJo tanks with up to 10 000 litres of water, twice a week. Further water filtration programmes have been implemented to provide clean drinking water to neighbouring communities.

Further assistance was provided to three neighbouring schools, namely Zuzuqhele High School, Magama Primary School and Kusa Kusa Primary School, all in Ezimbokodweni. Areas of support included education (supplying school shoes, stationery and desks), psycho-social well-being, child protection, food and water security and hygiene enhancement.

**R 1 900 000 invested** in ensuring access to quality education in partnership with Midesk Global, Barefoot No More and ForAfrika.



*Donation of school supplies, stationery and food parcels to Kusa Kusa Primary School, in Ezimbokodweni*





Jason Pritchard Managing Director AECI Mining Explosives Plc, Malawi, Angola and East Africa and Dignitaries for the Ministry of Health at opening of clinic in Kafironda

## ZAMBIA: NEW STATE OF THE ART PRIMARY HEALTH CLINIC

AECI Mining invested in the refurbishment of the local Primary Health Clinic in Kafironda, Mufulira, Zambia.

The refurbishment of the clinic will enable thousands of members of the local community to access primary health care services without travelling long distances. Beneficiaries include pregnant women who are at risk of pregnancy- and birth-related complications and require access to ante- and peri-natal care. This clinic is also expected to service Kitwe residents who reside across the Kafue Bridge.

The handover ceremony was attended by the district commissioner, Mayor of Mufulira, representatives of the Department of Health, and senior management of AECI Mining. Jordan Soko, chairman of AECI Mining addressed the members at the opening ceremony encouraging them to access this, now state of the art facility.

AECI Mining has **invested R 544 000** towards this phase of the project.

## Our CSI outlook



Scale programmes to be more sustainable internationally



Align international CSI programmes with shared value strategy



Strengthen collaboration with AECI business/ customers and other key stakeholders









Improved reporting and data management aligned with global reporting standards





## Summary of key sustainable CSI projects

Project description	Area/Geography	Focus area	Beneficiaries and benefits	Amount spent
BUSINESS RESCUE	KZN 	<ul style="list-style-type: none"> <li>Skills development</li> </ul>	<p>20 micro enterprises</p> <p>Providing 500 hours of business support whilst creating 60 new jobs</p>	➤ R 1 000 000
SOUTH AFRICA: COMMUNITY IMPACT PROJECTS	KZN, Gauteng, FS 	<ul style="list-style-type: none"> <li>Food security</li> <li>Skills development</li> <li>Job creation and income generation</li> </ul>	<p>9 businesses started</p> <p>131 people trained</p> <p>1 500 receiving food from each project</p> <p>Establishing over 95 household food gardens</p> <p>57 jobs created</p> <p>Average income received per day – R 5 666</p>	➤ R 1 200 000
SOUTH AFRICA: GREEN SOCIETY RECYCLING AND WASTE PROCESSING CENTRE	EC 	<ul style="list-style-type: none"> <li>Environmental conservation</li> </ul>	<p>Almost 90% of non-chemical waste, amounting to 20 tonnes, received at the processing centre was removed</p>	➤ R 350 000
SOUTH AFRICA: PLAYWAY PRE-PRIMARY AND CRÈCHE COMMUNITY VEGETABLE GARDEN	WC 	<ul style="list-style-type: none"> <li>Food security</li> <li>Environmental conservation</li> </ul>	<p>1 500 learners</p>	<p>➤ 20 employees' time</p> <p>➤ Value-in-kind</p> <p>➤ Product donation from AECI Plant Health</p>
SOUTH AFRICA: TRIO ACADEMY	FS 	<ul style="list-style-type: none"> <li>Education</li> </ul>	<p>10 learners</p>	➤ R 400 000
UBOGAVONGO NATURE RESERVE	KZN 	<ul style="list-style-type: none"> <li>Environmental conservation</li> </ul>	<p>13 000 learners annually</p>	➤ R 300 000

## APPENDIX A:

Sustainability-related **performance data**

		TARGET 2025	BASELINE	2022	2021	2020	2019	2018	2017
<b>ENVIRONMENTAL PERFORMANCE DATA</b>									
<b>GHG emissions</b>									
Scope 1	tonnes CO <sub>2</sub> e	322 025	402 531	267 919	266 291	334 225	366 980	308 216	351 317
Scope 2	tonnes CO <sub>2</sub> e	252 163	273 548	225 882	235 043	241 150	341 997	254 234	216 971
Scope 3				1 602 633		-	-	-	-
<b>Energy</b>									
Electricity	MWh	224 047	249 609	217 992	223 419	228 065	260 763	258 617	211 635
Energy consumption <sup>#</sup>	GJ			3 390 023	2 886 457+	2 930 501	3 269 369	3 121 388	2 320 449
<b>Water</b>									
Potable water consumption	m <sup>3</sup>	1 884 566	2 512 755	1 793 455	1 755 929	2 034 467	2 289 139	2 327 113	2 025 022
Effluent discharge to sea and sewer	m <sup>3</sup>	686 985	858 731	751 880	722 573	619 357	1 182 473	1 066 593	1 251 186
<b>Waste</b>									
Recycled waste <sup>#</sup>	tonnes			3 571	3 372	3 288	6 280	7 346	9 644
Hazardous waste <sup>#</sup>	tonnes			16 783	14 035	15 844	13 134	10 492	6 592
Increased recycled materials	tonnes			125 969					
<b>Environmental incidents</b>									
Environmental incidents (Moderate)		22	29	6	14	29	32	35	35
<b>SOCIAL PERFORMANCE DATA</b>									
<b>SHEQ (zero milestone)*</b>									
Fatalities	Number	0	0	0	0	0	0	1	-
Life-altering injuries	Number	0	0	0	0	1	2	3	-

\* The SHEQ (Zero Milestones) were established in 2018    # Baseline values and targets to be established in 2022    \* The process safety incident rate was only established in 2018

+ Change in calculation applied as of 2022, creating value change from 2021 report



## Sustainability-related performance data CONTINUED

## APPENDIX A:

		TARGET 2025	BASELINE	2022	2021	2020	2019	2018	2017
<b>SOCIAL PERFORMANCE DATA</b>									
SHE legal directives	Number	0	0	0	0	0	0	0	–
Major or serious environmental incidents	Number	0	0	0	0	0	0	0	–
Major process safety incidents	Number	0	0	0	0	0	0	0	–
Major product transportation incidents	Number	0	0	0	0	0	2	2	–
Repeat incidents (high severity)	Number	0	0	0	0	0	0	2	–
<b>Safety</b>									
TRIR		<0.25		0.15	0.23	0.42	0.38	0.58	0.39
Process safety total incident rate*									
Non-reportable incidents	Number			70	77	90	86	103	–
Reportable incidents	Number			10	9	22	17	21	–
PSTIR				0.81	0.8	1.1	0.89	1.09	–
<b>Socio-economic development data</b>									
CSI Spent	Rm			36	35	35	31	30	35
CSI International	Rm			6.1	4.1				
CSI South Africa	Rm			12.2	9				
CSI Fund	Rm			12.2					
Community trusts	Rm			14.7					
Value-in-kind	Rm			3.2					
Number of employees who have attended Leadership Development Programmes	Number			133	142	–	112	130	143
Bursaries (external and employee dependents)	Number			26	37	42	52	60	69
Learnerships, internships, apprenticeships and graduates	Number			376	188	256	306	233	219

\* The SHEQ (Zero Milestones) were established in 2018 # Baseline values and targets to be established in 2022 \* The process safety incident rate was only established in 2018

+ Change in calculation applied as of 2022, creating value change from 2021 report



## APPENDIX B:

# ESG KPI definitions

The objective of this document is to provide the definitions, as applied by AECI, for all ESG indicators reflected in the relevant reports, including integrated report and sustainability report published after 2019. The sustainability information is prepared in accordance with the AECI occupational injuries, illnesses and environmental reporting guidelines. The reporting criteria is available on request.

ENVIRONMENT	DEFINITION	UNIT
1. Decrease potable water consumption	Fresh (drinkable) water withdrawn/extracted or purchased from external sources and used for industrial and domestic purposes.	m <sup>3</sup>
2. Decrease discharge to sea or sewer	Liquid effluents, treated or untreated, discharged from industrial sites into third party systems such as sewers or oceans.	m <sup>3</sup>
3. Decrease Scope 1 emissions	Green House Gases (GHGs) emitted directly from sources that are owned or controlled by AECI.	tCO <sub>2</sub> e
4. Decrease Scope 2 emissions	Indirect GHG emissions that result from the generation of purchased or acquired electricity, heating, cooling and steam consumed by AECI.	tCO <sub>2</sub> e
5. Decrease Scope 3 emissions	Emissions that result from activities or assets not owned or controlled by AECI, but that AECI utilises through its value chain.	tCO <sub>2</sub> e
6. Increase electricity from renewables	Electricity consumed by AECI from renewable energy sources such as solar or wind.	MWh
7. Increase recycled waste	Waste recovered from AECI and diverted from disposal for alternative use.	Metric ton
8. Decrease hazardous waste	Hazardous materials, produced by AECI and directed to an authorised disposal facility.	Metric ton
9. Increase recycled materials	Materials re-purposed for use within AECI operations and not directed to disposal.	To be defined
10. Decrease moderate environmental incident	Unplanned events or occurrences that have an environmental impact, on- or off-site. Moderate incidents require limited to no remediation but have the potential to cause long term impact if not addressed. External environmental complaints confirmed to be related to AECI operations, including odours, emissions or particulate matter.	Number of incidents
SOCIAL	DEFINITION	UNIT
1. Decrease TRIR	Work-related injuries, sustained by employees and any contractor or non-employee working under AECI supervision, that results in any of the following: death, days away from work, restricted duties, medical treatment beyond first aid. Work-related illnesses are included for employees and are recorded according to in-country occupational health standards and included on once confirmed by a licensed professional and related to exposures during work related activities at AECI.	Incidents per 200 000 hours worked over a rolling 12-month period
2. Gender equality		
2.1 Gender equality: board and top management	Female representation on the AECI board and top management.	%
2.2 Gender equality: Senior, middle and junior management levels	Female representation in the senior management, middle management and junior management levels.	%
3. Leadership development	Employees who attended the AECI Management Development Programmes.	Number



ESG KPI definitions CONTINUED

APPENDIX B:

4. Learnerships/internships/bursaries	Employees who were awarded learnerships, internships, bursaries or study assistance.	Number
5. Employee volunteerism	Employees who took part in a community-related CSI projects.	Number
6. Corporate social responsibility		
6.1. South Africa	CSI projects spend in South Africa.	Rm (value)
6.2. International	CSI projects spend outside of South Africa.	Rm (value)
7. ESD local community spend	Percentage of expenditure on local goods and services as a percentage of total expenditure on goods and services.	%
8. Enterprise and supplier development	Number of qualifying Supplier Development Small, Medium, and Micro Enterprises supported with financial and/or operational/ business assistance at an AECL group level.	Number
9. Preferential procurement	Points awarded for procurement against qualifying suppliers in South Africa, per B-BBEE Level score including: Qualifying Small Enterprises, Exempted Micro Enterprises, Black-Owned, >30% Black Women-Owned and discretionary bonus points.	B-BBEE points achieved

GOVERNANCE	DEFINITION	UNIT
1. Responsible leadership		
1.1. Leadership accountability	AECL's board and executive committee are accountable for sustainability.	
1.2. Stakeholder engagement	AECL makes sustainable business decisions which take into account the interest of all stakeholders.	
1.3. Remuneration practices	AECL's performance criteria in its remuneration practices for governing body members and senior executives, include economic, environmental and social objectives	
2. Ethical business	AECL has appropriate business policies, procedures and practices in place. All AECL employees attend ethics training and awareness sessions. Where required declarations on 'Conflict of Interest' are made. AECL has an anonymous tip-off hotline in place. AECL has a legal and compliance function to provide advice on ethical matters.	
3. External assurance	AECL receives independent external assurance on applicable standards in place for sustainability reporting and environmental legal compliance.	
4. Regulatory reporting	AECL submits regulatory reports which relate to for example, AECL's water use licence, air emissions licence, carbon tax, GHG reporting and environmental incidents.	





## APPENDIX C:

## External assurance statement



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South Africa

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## Independent Assurance Practitioner's Limited Assurance Report on Selected Key Performance Indicators

To the Directors of AECI Limited

## Report on Selected Key Performance Indicators

We have undertaken a limited assurance engagement on selected key performance indicators (KPIs), as described below, and presented in the Sustainability Report 2022 of AECI Limited ("AECI") for the year ended 31 December 2022 (the Report). This engagement was conducted by a multidisciplinary team including environmental, health, safety and assurance specialists with relevant experience in sustainability reporting.

## Subject Matter

We have been engaged to provide a limited assurance conclusion in our report on the following selected KPIs, marked with an \* on the relevant pages in the Report. The selected KPIs described below have been prepared in accordance with the AECI occupational injuries, illnesses and environmental reporting guidelines ("reporting criteria"). The reporting criteria is disclosed within the relevant pages of the report and is available on request.



National Executive: \*R Redfearn Chief Executive Officer, \*GM Berry Chief Operating Officer, JW Eshun Managing Director Businesses, LN Mahluza Chief People Officer, \*N Sing Chief Risk Officer, AP Theophanides Chief Sustainability Officer, \*NA le Riche Chief Growth Officer, \*ML Tshabalala Audit & Assurance, AM Babu Consulting, TA Odukoya Financial Advisory, G Rammego Risk Advisory, DI Kubeka Tax & Legal, DP Ndlovu Chair of the Board

A full list of partners and directors is available on request

\* Partner and Registered Auditor

**B-BBEE rating: Level 1 contribution in terms of the DTI Generic Scorecard as per the amended Codes of Good Practice**

Associate of Deloitte Africa, a Member of Deloitte Touche Tohmatsu Limited

ENVIRONMENT KEY PERFORMANCE INDICATORS	UNIT OF MEASUREMENT	BOUNDARY	REPORT PAGE NUMBER
Environmental incidents (serious and major)	Number	AECI Group	26
Environmental incidents (moderate)	Number	AECI Group	26, 31
Potable water consumption	m <sup>3</sup>	AECI Group	29
Hazardous waste	Tonne	AECI Group	30
GHG Scope 1 emissions	tCO <sub>2</sub> e	AECI Group	34
GHG Scope 2 emissions	tCO <sub>2</sub> e	AECI Group	34
Carbon footprint: Total of scope 1 and 2	tCO <sub>2</sub> e	AECI Group	33
Electricity consumption	MWh	AECI Group	33
Energy consumption	GJ	AECI Group	33
Recycled waste	Tonne	AECI Group (excl. SANS Fibres)	30
Effluent discharged to sea and sewer	m <sup>3</sup>	AECI Group	29
SAFETY AND HEALTH KEY PERFORMANCE INDICATORS	UNIT OF MEASUREMENT	BOUNDARY	REPORT PAGE NUMBER
Total recordable incident rate (employees and contractors combined) (TRIR)	Rate	AECI Group	27
Work-related fatalities (employees and contractors combined)	Number	AECI Group	26
Occupational illness rate (employees and contractors combined)	Rate	AECI Group	28
Major product transportation incidents	Number	AECI Group	26
Process safety Incidents (Reportable)	Number	AECI Group	27
Process safety Incidents (Non-reportable)	Number	AECI Group	27
GENDER EQUALITY KEY PERFORMANCE INDICATORS	UNIT OF MEASUREMENT	BOUNDARY	REPORT PAGE NUMBER
Gender equality: Board and top management	Percentage	AECI Group	56
Gender equality: Senior, middle and junior management levels	Percentage	AECI Group	56



## External assurance statement CONTINUED

### APPENDIX C:

# Deloitte.

## *Directors' Responsibilities*

The Directors are responsible for the selection, preparation and presentation of the selected KPIs in accordance with the reporting criteria. This responsibility includes the identification of stakeholders and stakeholder requirements, material issues, commitments with respect to sustainability performance and design, implementation and maintenance of internal control relevant to the preparation of the Report that is free from material misstatement, whether due to fraud or error. The Directors are also responsible for determining the appropriateness of the measurement and reporting criteria in view of the intended users of the selected KPIs and for ensuring that those criteria are publicly available to the Report users.

## *Inherent Limitations*

The Greenhouse Gas (GHG) emission quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

## *Our Independence and Quality Control*

We have complied with the independence and other ethical requirements of the *Code of Professional Conduct for Registered Auditors* issued by the Independent Regulatory Board for Auditors (IRBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. The IRBA Code is consistent with the corresponding sections of the International Ethics Standards Board for Accountants' *International Code of Ethics for Professional Accountants (including International Independence Standards)*.

The Firm applies the International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

## *Assurance Practitioner's Responsibility*

Our responsibility is to express a limited assurance conclusion on the selected KPIs based on the procedures we have performed and the evidence we have obtained. We conducted our assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised), *Assurance Engagements other than Audits or Reviews of Historical Financial Information* and, in respect of greenhouse gas emissions, in accordance with the International Standard on Assurance Engagements (ISAE) 3410, *Assurance Engagements on Greenhouse Gas Statements*, issued by the International Auditing and Assurance Standards Board. These standards require that we plan and perform our engagement to obtain limited assurance about whether the selected KPIs are free from material misstatement.

A limited assurance engagement undertaken in accordance with ISAE 3000 (Revised) and ISAE 3410 involves assessing the suitability in the circumstances of AECI's use of its reporting criteria as the basis of preparation for the selected KPIs, assessing the risks of material misstatement of the selected KPIs whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the selected KPIs. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks. The procedures we performed were based on our professional judgement and included inquiries, observation of processes followed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Interviewed management and senior executives to obtain an understanding of the internal control environment, risk assessment process and information systems relevant to the sustainability reporting process;
- Inspected documentation to corroborate the statements of management and senior executives in our interviews;
- Performed a walkthrough of the processes and systems to generate, collate, aggregate, monitor and report the selected KPIs;
- Inspected supporting documentation on a sample basis and performed analytical procedures to evaluate the data generation and reporting processes against the reporting criteria; and
- Evaluated whether the selected KPIs presented in the Report are consistent with our overall knowledge and experience of sustainability management and performance at AECI.



## External assurance statement CONTINUED

### APPENDIX C:

# Deloitte.

The procedures performed in a limited assurance engagement vary in nature and timing and are less in extent than for a reasonable assurance engagement. As a result, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether AECL's selected KPIs have been prepared, in all material respects, in accordance with the accompanying AECL's reporting criteria.

### *Basis For Qualified Conclusion*

Included in the AECL Group KPIs of Electricity consumption, GHG Scope 2 emissions, the Total Recordable Incident Rate and the Occupational Illness Rate are values of 23 481 MWh, 11 788 tCO<sub>2</sub>e and 1 634 632 exposure hours respectively arising from the Schirm operations. We were unable to obtain sufficient appropriate audit evidence over these KPIs as management could not provide us with the information, supporting documentation and explanations to substantiate the Schirm reported electricity usage, the related GHG scope 2 emissions and exposure hours data. We were unable to substantiate these values by alternative means. As a consequence, we were unable to determine whether any adjustments were necessary to the disclosed AECL Group KPIs of Electricity consumption, GHG Scope 2 emissions, the Total Recordable Incident Rate and the Occupational Illness Rate.

### *Qualified Limited Assurance Conclusion*

Based on the procedures we have performed and the evidence we have obtained, subject to the inherent limitations outlined elsewhere in this report, and except for the possible effects of the matters referred to in the "Basis for Qualified Conclusion" paragraph above, nothing has come to our attention that causes us to believe that the selected KPIs as set out in the Subject Matter paragraph above for the year ended 31 December 2022 are not prepared, in all material respects, in accordance with the reporting criteria.

### *Other Matters*

The maintenance and integrity of the AECL's website is the responsibility of AECL's management. Our procedures did not involve consideration of these matters and, accordingly, we accept no responsibility for any changes to either the information in the Report or our independent limited assurance report that may have occurred since the initial date of its presentation on AECL's website.

### *Restriction of Liability*

Our work has been undertaken to enable us to express a limited assurance conclusion on the selected KPIs to the Directors of AECL in accordance with the terms of our engagement, and for no other purpose. We do not accept or assume liability to any party other than AECL, for our work, for this report, or for the conclusion we have reached.

### **Deloitte & Touche**

Registered Auditors

Per Jyoti Vallabh  
Chartered Accountant (SA)  
Registered Auditor  
Partner

26 April 2023

5 Magwa Crescent  
Waterfall City,  
Waterfall  
Private Bag X6, Gallo Manor, 2052  
South Africa

APPENDIX D:

# Glossary of terms

TERM	DESCRIPTION
<b>B-BBEE</b>	Broad-Based Black Economic Empowerment
<b>Capex</b>	Capital Expenditure
<b>CDP</b>	Carbon Disclosure Project
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CO<sub>2</sub>e</b>	Carbon Dioxide Equivalent
<b>COP</b>	Conference of the Parties
<b>COP26</b>	26th meeting of the Conference of the Parties
<b>COP27</b>	27th meeting of the Conference of the Parties
<b>COVID-19</b>	Coronavirus disease
<b>CSI</b>	Corporate Social Investment
<b>CSRD</b>	Corporate Sustainability Reporting Directive
<b>DAF</b>	Dissolved Air Flotation
<b>dGPS</b>	Differential Global Positioning System
<b>DRC</b>	Democratic Republic of the Congo
<b>EC</b>	Eastern Cape
<b>EC</b>	Executive Committee
<b>EFRAG</b>	European Financial Reporting Advisory Group
<b>ESD</b>	Enterprise and Social Development
<b>ESG</b>	Environmental, Social and Governance
<b>EST</b>	Employee Share Trust
<b>EVDS</b>	Emulsion Vertical Drop System
<b>FAMI-QS</b>	The Quality and Safety System for Specialty Feed Ingredients
<b>FMDP</b>	Foundation Managers Development Programme
<b>FOL</b>	Farmers Organisation Ltd
<b>FS</b>	Free State
<b>GHG(s)</b>	Greenhouse Gas(es)
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>GJ</b>	Gigajoule
<b>GR</b>	Governance report

TERM	DESCRIPTION
<b>HEPS</b>	Headline Earnings per Share
<b>HH</b>	Highly Hazardous
<b>IDP</b>	Individual Development Plan
<b>IEC</b>	Import Export Code
<b>IR</b>	Integrated report
<b>ISO</b>	International Organization for Standardization
<b>JSE</b>	Johannesburg Stock Exchange
<b>KM</b>	Kilometre
<b>KPI(s)</b>	Key Performance Indicator(s)
<b>KWh</b>	Kilowatt-hour
<b>KZN</b>	KwaZulu-Natal
<b>LEAP</b>	Lean Enterprise Acceleration Programme
<b>LDP</b>	Leadership Development Programme
<b>LTI</b>	Long-Term Incentive
<b>m<sup>3</sup></b>	Cubic Metre
<b>MLD</b>	Megalitre a day
<b>MMU(s)</b>	Mobile Manufacturing Unit(s)
<b>MW</b>	Megawatt
<b>MWh</b>	Megawatt Hour
<b>N/A</b>	Not applicable
<b>NPAT</b>	Net Profit after Tax
<b>NSC</b>	National Senior Certificate
<b>PESTLE</b>	Political, Economic, Sociological, Technological and Environmental
<b>PETN</b>	Pentaerythritol Tetranitrate
<b>PSE</b>	Processed Sewage Effluent
<b>PSTIR</b>	Process Safety Total Incident Rate
<b>(Pty) Ltd</b>	Proprietary Limited
<b>RA</b>	Recycled Asphalt
<b>Rb</b>	Rand Billion
<b>Rm</b>	Rand Million

TERM	DESCRIPTION
<b>RONA</b>	Return on Net Assets
<b>RR</b>	Remuneration report
<b>SABS</b>	South African Bureau of Standards
<b>SANS</b>	South African National Standard (safety)
<b>SDG(s)</b>	Sustainable Development Goal(s)
<b>SESC</b>	Social, Ethics and Sustainability Committee
<b>SHE</b>	Safety, Health, Environment
<b>SHEC</b>	Safety, Health and Environment Committee
<b>SHEQ</b>	Safety, Health, Environment and Quality
<b>SMME(s)</b>	Small, Medium and Micro Enterprise(s)
<b>SMF</b>	Stakeholder Management Framework
<b>SR</b>	Sustainability report
<b>TCFD</b>	Task Force on Climate-Related Financial Disclosures
<b>tCO<sub>2</sub>e</b>	Tonnes of CO <sub>2</sub> equivalent
<b>TRIR</b>	Total Recordable Incident Rate
<b>TSR</b>	Total Shareholder Return
<b>UF</b>	Ultrafiltration
<b>UIC</b>	Umbogintwini Industrial Complex
<b>UN</b>	United Nations
<b>UNGC</b>	United Nations Global Compact
<b>WASCO</b>	Water and Sewerage Company
<b>WC</b>	Western Cape
<b>4IR</b>	Fourth Industrial Revolution





# Corporate information

## AECI Limited

(Incorporated in the Republic of South Africa)  
(Registration No. 1924/002590/06)  
Taxation reference No. 9000008608  
Share code: AFE ISIN: ZAE000000220  
Hybrid code: AFEP ISIN: ZAE000000238  
Bond company code: AECI  
LEI: 3789008641F1D3D90E85  
(‘AECI’ or the ‘Company’ or the ‘group’)

## Registered office and business address

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## Group company secretary

Cheryl Singh  
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## Group investor relations

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## Web address

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## London secretary

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England

## Transfer secretaries

### Computershare Investor Services Proprietary Limited

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and

### Computershare Investor Services Public Company Limited

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Bristol BS99 7NH  
England

## External auditor

Deloitte & Touche  
5 Magwa Crescent  
Waterfall City  
Waterfall, 2090  
South Africa

## Primary transactional and funding banks

ABSA Bank Limited  
First National Bank of Southern Africa Limited  
(A division of FirstRand Bank Limited)  
Investec Bank Limited  
Nedbank Limited  
Sanlam Specialised Finance  
(A division of Sanlam Life Insurance Limited)  
Standard Chartered Bank  
The Standard Bank of South Africa Limited

## South African equity and debt sponsor

Rand Merchant Bank  
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1 Merchant Place  
Corner Rivonia Road and Fredman Drive  
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South Africa







[www.aeciworld.com](http://www.aeciworld.com)

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