

2022 Responsible Care[®]



PERFORMANCE REPORT



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CAIA Vision and Mission

Vision

Responsible Care[®] envisages a profitable, sustainable chemical sector in South Africa that contributes to the quality of human life and the economy through innovation and production – without harm to people, property, or the environment. Responsible Care[®] aims to ensure that South Africa's chemical sector is recognised by all stakeholders as a responsible industry that plays an important role in providing a wide range of benefits to society – while remaining open, honest, accountable, and credible in all its dealings. Responsible Care[®] strives to achieve zero employee and contractor injuries, zero manufacturing process safety incidents, zero distribution incidents, zero environmental incidents, and zero fatalities.

Mission

The voluntary Responsible Care[®] Initiative aims to bring about continual improvement in the safety, health, environment (SHE) and security performance. Signatories to this initiative commit to implement the Responsible Care[®] Guiding Principles and to constantly monitor, measure, and report performance in a transparent way. This allows signatories to measure progress, identify areas for future improvement and determine whether Responsible Care[®] is having a positive impact on industry performance.

Zero
environmental
incidents

Zero
fatalities

Zero
manufacturing
process safety
incidents

Zero
distribution
incidents

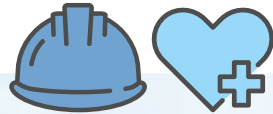
Zero
employee and
contractor injuries



Performance Highlights

All performance results presented in this report are comparisons between operations undertaken during 2020 and 2021.

Safety and Health



Behaviour-based Safety

Percentage of signatories reporting a programme was in place for in-house and contractor drivers increased to

81.3%



Process Safety Incident Rate

Tier 1 incidents (relative to hours worked) increased by

22.6%

Tier 2 incident rate decreased by

52.2%

Total process safety incidents (Tier 1 plus Tier 2) decreased by

27.5%



Responsible Care[®] Training

Percentage of signatories that had formal, documented Responsible Care[®] training in place increased to

95.1%

following three years of decline.

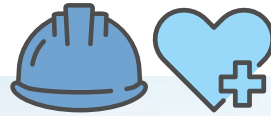


Management Systems

Signatories are increasingly implementing International Organization for Standardization (ISO) Management Systems – such as ISO 9001, ISO 14001, and ISO 45001 – along with the Responsible Care[®] Management System (RCMS).

Performance Highlights continued

Safety and Health continued



Community Awareness

Percentage of signatories with **community awareness and emergency response structures** in place increased by

5.5

percentage points and those having external stakeholder meetings by

0.3

percentage points.



Emergency Response

Signatories having **emergency response plans in place** increased by

0.5

percentage points,

and those regularly testing with external stakeholder involvement by

3.7

percentage points.



Desktop Simulation Exercises

48.6%

of signatories **undertook desktop simulation exercises**. Increased implementation has been noted for the second year, since reporting began for 2019 operations.

Performance Highlights continued

Environment



Atmospheric Emissions under Licence

Sulphur dioxide emissions per tonne of traded product were

27.5%

lower, while nitrous oxides reduced by $SO_2 \downarrow$

5.8%

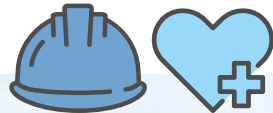
$NO_x \downarrow$

A clearer trend of licensed emissions will become evident over a longer reporting period.

Opportunities, Challenges and Risks

CAIA undertakes advocacy initiatives relating to SHE and security. This contributes to the chemical and allied industries' performance, in terms of these metrics, as well as business sustainability.

Safety and Health



CAIA's internal "Root Cause" and "Nature" data analyses provide information for priority training and awareness raising activities to be implemented by the association.



Fatalities

Fewer fatalities were reported.

Most fatalities were as a result of road transportation activities.

One contractor-related fatality was reported while **four were related to signatories' own employees**.



Recordable Injuries

A **continued reduction** in the recordable injury incident rate is commended.

An increase in the in-house, non-material-related recordable injury rate requires attention from signatories.



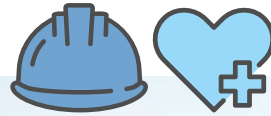
Stakeholder Engagement

There is still an opportunity for signatories to improve stakeholder engagement.

About **half of signatories reported engagement with external stakeholders**.

Opportunities, Challenges and Risks

Safety and Health continued



Handling and Storage, and Road Transportation Incidents

The **incident rate for handling and storage** of material, per 200 000 hours worked, **increased by**

105.2%

for contractor-related activities

and for in-house incidents by

42.0%

The overall **road transportation-related incident rate** and the rate of incidents resulting from the release of material during road transportation, increased to **1.83** and **0.46** incidents per 1 million kilometres travelled, respectively.



Process Safety Near Misses

Increases have been reported **in the number of process safety-related near misses** as a rate of hours worked, the proportion of signatories that reported one or more near misses, and the average near misses across all signatories. This may be due to improved reporting (at the workplace and/or to CAIA), or an actual increase in the number of near misses.

Opportunities, Challenges and Risks continued

Environment



Environmental Incidents

For the third year in a row, the number of **environmental incidents has increased**. A total of

619

were reported

and the percentage of legally reportable incidents **increased by**

23.1%

CAIA's advocacy initiatives regarding Section 30 of the National Environmental Management Act may have raised awareness regarding environmental incident reporting requirements.



Efficiency Indicators Dependant on Levels of Production

Several environment-related indicators showed **lower efficiencies which are likely due to lower production**, including energy and water consumption, effluent discharge, and waste.



Waste Minimisation Plans

The number of **signatories that had waste minimisation plans in place** continued to **increase**.

Opportunities, Challenges and Risks continued

Environment



Opportunities for the Sector

The South African chemical sector, along with other economic sectors, is experiencing an **increase in the cost of doing business** and **cost of living, including deteriorating infrastructure**. **Opportunities to increase competitiveness** and access additional markets through trade agreements, such as the **African Continental Free Trade Agreement**, should be harnessed.

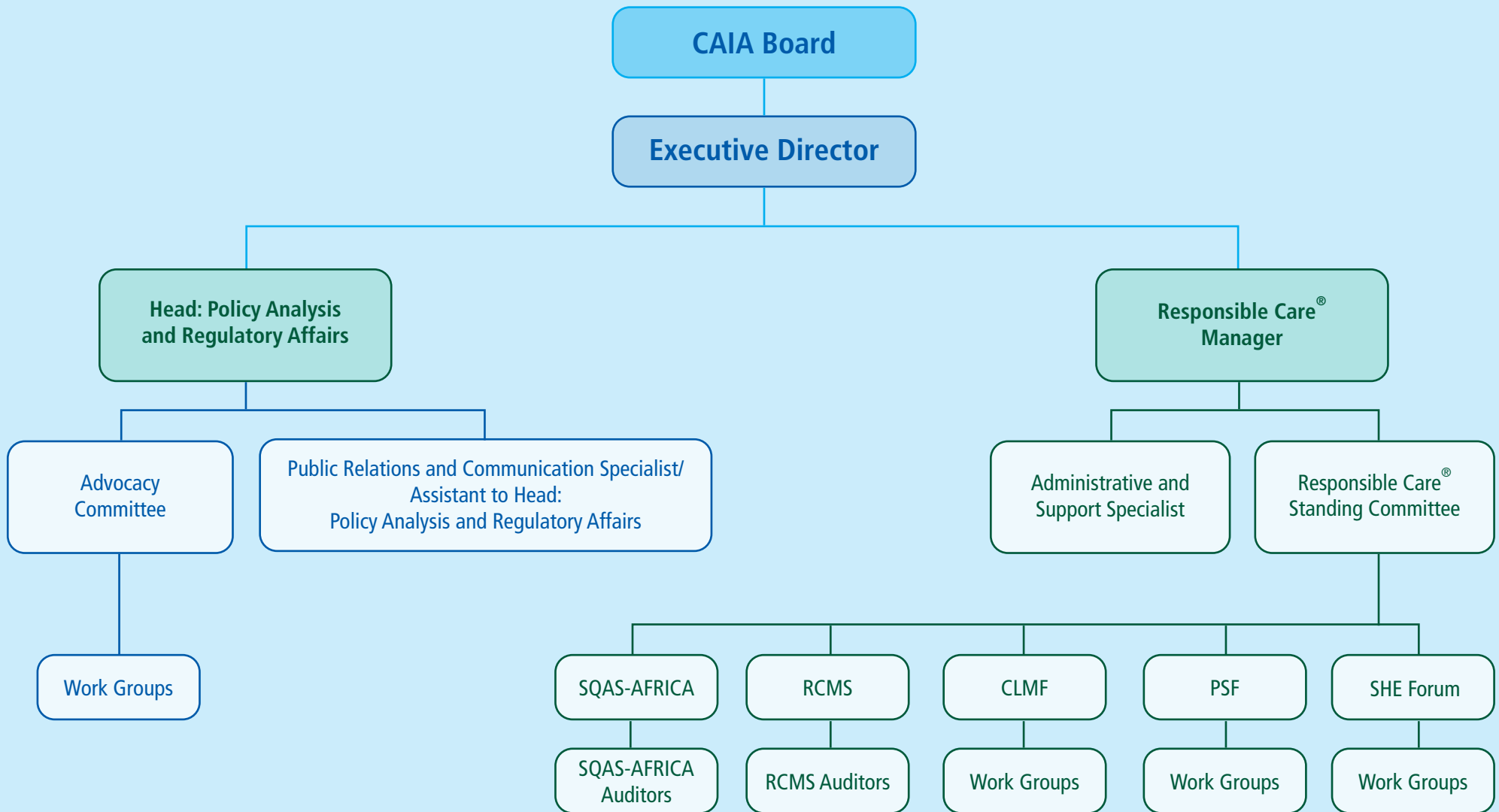
The **Chemicals Sector Master Plan** has been presented to **the dtic** and a way forward is to be determined.

Closer working relationships with Government have been established that facilitate increased awareness of the sector's contribution to the economy, both financially and for the competitive supply of essential products. **Critical initiatives include a focus on water and energy** spheres.

CAIA has been involved at strategic and technical levels to **provide positive contributions to the implementation of policy and related developments**. Engagements take place multi-sectorally through business associations, and bilaterally with other sectors, as well as Government.

It is important that CAIA continues to identify all opportunities so that with the support of its members, it advocates for an enabling business environment for sustained economic growth.

Organisational Structure



Contributing to Sustainability

The 2030 Agenda for Sustainable Development is a plan of action for people, the planet, prosperity, and the endeavour to strengthen universal peace. Acting in a collaborative partnership, the 193 member states agreed to implement this plan which has 17 Sustainable Development Goals (SDGs) and 169 targets.

In response to the sustainable development agenda, South Africa has adopted the National Framework for Sustainable Development. The purpose of the framework is to convey the national vision for sustainable development and adopt strategic interventions to mitigate the stress on environmental systems and natural resources from economic growth and development strategies.

The Multilateral Environmental Agreements (MEAs) relating to chemicals in the country aim to protect human health and the environment from the harmful effects of chemicals. The national Department of Forestry, Fisheries, and the Environment (DFFE) acts as a focal point and the designated national authority for the implementation of obligations of MEAs that relate to chemicals and waste. The role of the DFFE is to assist industry in their responsibilities regarding chemicals management by sharing information, forming partnerships, drafting, and enforcing relevant legislation.

Voluntary implementation of the country's commitments by stakeholders has not fully met the objectives. There is now a move towards more formal agreements and regulation at a global and national level to ensure progress towards achieving the goals. For example, on October 13, 2021, the Kunming Declaration was adopted by over 100 countries at the 15th meeting of the Conference of the Parties (COP15) to the United Nations Convention on Biological Diversity (CBD). The declaration commits countries to supporting a post-2020 global biodiversity framework that aims to put biodiversity on a path to recovery by 2030. In South Africa, increased legislation (including environmental taxes/levies) is coming into effect around emissions to the atmosphere including local pollutants and greenhouse gases, carbon tax, chemicals and waste management, and human rights in supply chains.



Contribution to Sustainability by the Chemical and Related Industries in South Africa

South Africa's chemical industry dates back to the third quarter of the 19th century. The industry is dominated by local companies that originated from the historic base in explosives for the mining industry and the production of nitrogen-based fertilisers and sulphuric acid.

CAIA implemented an SDG Survey in September 2022, to get an insight into the understanding of its members regarding sustainability and the priorities of the chemical and related industries in South Africa.



Contributing to Sustainability continued



Survey Methodology and Procedure

The survey was distributed through SurveyMonkey, an internet programme and hosting site. Links to the site and the UN SDG booklet were distributed to members via e-mail. One response was requested per organisation, regardless of the number of facilities/sites or subsidiaries listed individually as members of CAIA.



Structure of the Survey

Four questions were used for the survey that aimed at awareness of sustainability and the SDGs, prioritisation of the SDGs, and implementation and evaluation of progress on prioritised SDGs, at organisational level.

SUSTAINABLE DEVELOPMENT GOALS

The questions were structured as follows:

Q1 Is your organisation aware of the Sustainable Development Goals (SDGs) signed by 193 world leaders at the UN in 2015?

Yes/No



Q2 Which of the above SDGs are of importance to your organisation?

Q3 Which of the above SDGs are being prioritised by your organisation?

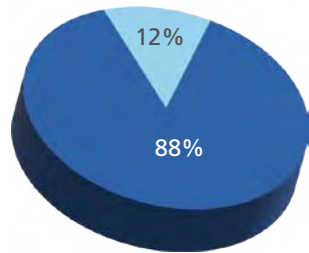
Q4 Does your organisation evaluate progress of the implementation of the SDGs?

Yes/No

Contributing to Sustainability continued

Survey Results

Q1 Awareness of SDGs



■ Yes ■ No

59

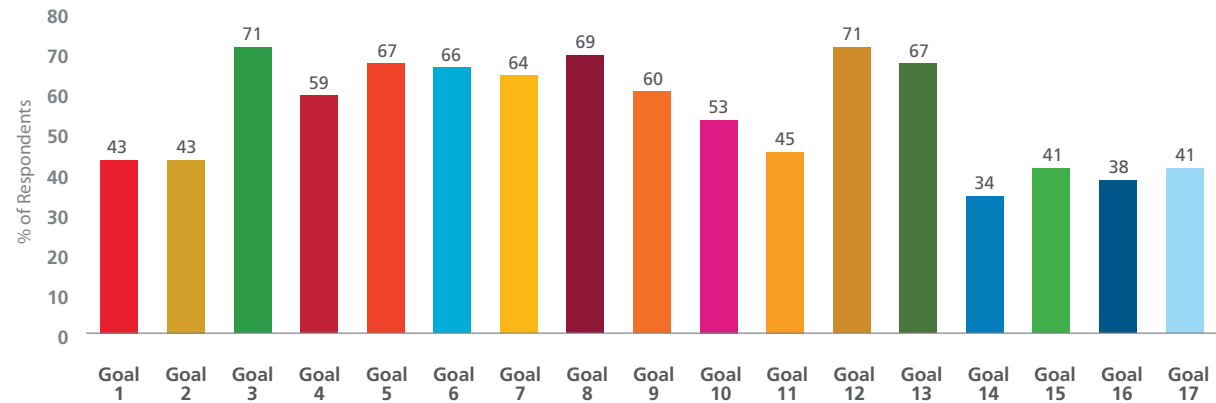
responses were received from 95 expected input

62%

The proportion of respondents that are aware of the SDGs was

88%

Q2 SDGs important to organisations



The top six SDGs that companies consider of importance to their organisation are:



The results of the *UN Global Survey on Sustainability and the SDGs* that was carried out between September 2018 and June 2019, showed that **the worldwide average awareness level of the SDGs is just under**

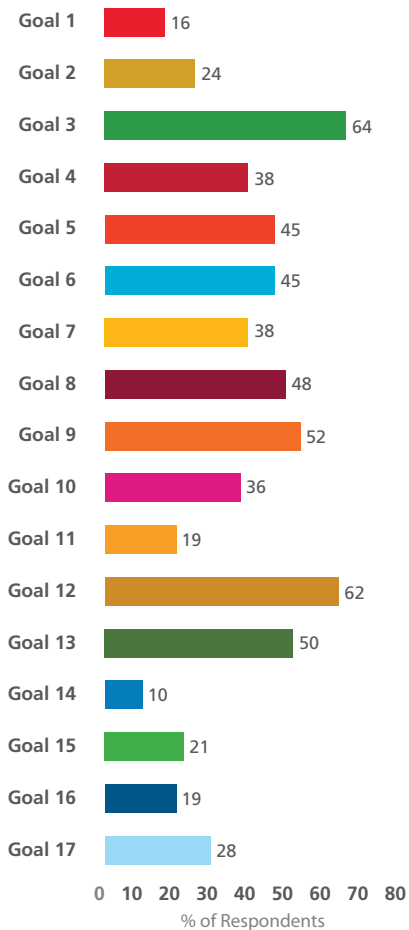
50%



Contributing to Sustainability continued

Survey Results continued

Q3 SDGs prioritised by organisations



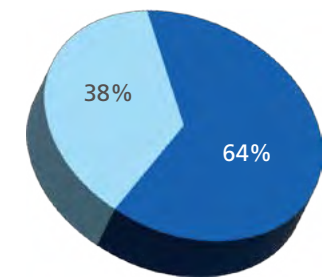
The top six SDGs being prioritised by the chemical and related industries are as follows:



Results from the *UN Global Survey on Sustainability and the SDGs* of 2019 showed that “Climate Action (SDG 13) is the most frequently cited SDG of personal interest, followed by Good Health and Well-being (SDG 3) and Quality Education (SDG 4). From an industry perspective, priority SDGs are Responsible Consumption and Production (SDG 12), Climate Action (SDG 13) and Industry, Innovation, and Infrastructure (SDG 9).

It should be noted that, **No Poverty (SDG 1)** and **Zero Hunger (SDG 2)** are urgent social SDGs in Africa and must be prioritised. It is a concern that **Clean Water and Sanitation (SDG 6)** is not one of the top six goals that are prioritised.

Q4 Evaluation of progress relating to the implementation of SDGs



■ Yes ■ No

The percentage of respondents who monitor SDG implementation and evaluate its progress is

64%



Who Leads Us



CAIA Board Members

André Harding	NCP Chlorchem (Pty) Ltd
Cicelia Van Rooi	Dow Southern Africa (Pty) Ltd
David Mokomela	Sasol South Africa Limited
Dean Thompson	EnviroServ Waste Management (Pty) Ltd
Deidré Penfold	CAIA
Jeff Lipshitz	Industrial Distillers & Refiners CC
Juliana Hosken Wernek	BASF Holdings South Africa (Pty) Ltd
Mark Dytor	AECI Ltd
Nico Van Niekerk	Safripol (Pty) Ltd
Seelan Gobalsamy	Omnia Group (Pty) Ltd



CAIA Team

Deidré Penfold	Executive Director
Amon Nyamhingura	Responsible Care [®] Manager
Glen Malherbe	Head: Policy Analysis and Regulatory Affairs
Marna Enslin	Public Relations and Communication Specialist/ Assistant to Head: Policy Analysis and Regulatory Affairs
Nomthie Masuku	Administrative and Support Specialist



Technical Support

Catherine Grant Makokera	Tutwa Consulting Group
Julie Borland	Julie Borland Consulting

Chairperson's Statement

It is my pleasure to share the performance and activities of the association and signatories with you, from a Responsible Care[®] implementation perspective. Activities of both members and the association itself are highlighted, to provide an aggregate view of the trajectory of the value chain's performance on key metrics that are reported on annually, as a part of signatories' commitment to the Responsible Care[®] Initiative.



André Harding

Members' contributions are both to CAIA and their own companies. Firstly through the provision and sharing of information at engagements and through data requests; secondly by implementing the initiative with the ethos of continual improvement through implementation of the Plan – Do – Check – Act cycle in everything that is undertaken. CAIA appreciates these contributions to the greater good. CAIA strives to ensure that the benefits of "association" – through CAIA – are realised, as this is where the value lies. Contributing to the implementation of the initiative can also result in improved company performance in the SHE and security arenas. Furthermore, contributions made to CAIA's advocacy work that includes the policy, legislative and regulatory space can assist with members' company-specific challenges, as well as those of a subsector, and the chemical and allied industries. This value is provided to members both for existing areas requiring attention, and for matters that are being developed – or need to be further developed – by Government. In this way, CAIA strives to be an effective partner to your business.

Looking to the future, both in terms of where we want to go, and how we want to get there, is important not only from the perspective of responding to what is driving us as the chemical and allied industries in South Africa, but also when considering where opportunities may lie for industry to be the driver of the change we want to see.

CAIA has demonstrated before and since its re-establishment in 1993 from the Transvaal Chemical Manufacturers' Association that it takes up challenges being experienced by member companies in order to make a positive, lasting contribution to business sustainability - while keeping operational matters close to heart. The latter areas – such as SHE and security performance – are key pillars of the Responsible Care[®] Initiative that is in its 28th year of implementation in South Africa.

With the alleviation of one crisis – COVID-19 being a global one with country-specific challenges to also take cognisance

of – our attention is drawn to the next urgent matter that becomes a priority of national significance – security of energy and water supply in South Africa, not to mention the dire state and lack of functionality of the ports and land borders. Challenges are common to any country – it is how they are navigated that makes the difference. Considered and timeous responsiveness is key. Without planning for future eventualities that currently face us domestically, internationally, and globally, sustainability of the environment, businesses and economies cannot be ensured. There must be leadership at all levels and decisions taken, when necessary, by empowered people who have the best interests of stakeholders at heart. As the world changes, and it is changing quickly, South Africa's people and businesses must adapt and even more importantly work together for the greater good.

Although messaging from Government is increasingly noting the importance of the private sector to job creation, the competitiveness of South African business remains a concern. This is where subsidies and incentives become so important, which if applied prudently can have a positive impact on the economy despite the State's expense. Serious questions need to be asked – not just of

Chairperson's Statement continued

State-Owned Enterprises – but also of the private sector, in terms of what will make South Africa competitive in a certain area/product/market, and what pathway should be travelled to get there as fast as possible, whilst managing the change that will be necessary in the most just manner.

The chemical and allied industries have many hazards and risks that need to be navigated.

The importance of risk assessments has recently been highlighted by the release of the Department of Employment and Labour's Code of Practice for Managing Workplace COVID-19, charting a new era for worker health and safety by focusing on risk mitigation and the continued implementation of the hierarchy of controls. This forward thinking by Government should be applauded as there are likely to be further COVID-19 waves of infection, and other viruses having global impacts. Risk assessment is a critical tool for industry to implement in a number of areas including in the chemicals management space. Through the continued implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) by Government and industry, hazards can be identified and communicated – providing the best chance of reducing risk. Along with risk assessment, the analysis of results and possible contributions to performance (whether good or bad) can have great benefits to industry and its partners. For example, CAIA provides aggregate performance reports and trends in this annual report, but also provides individual signatories with company/site-specific performance reports for them to identify where attention may be needed – or even when best practices can be shared through the CAIA platforms.

One new way that CAIA is responding to increased risk that members and communities may face from a security perspective, and to contribute to CAIA's strategic initiatives in the areas of trade agreements with other countries and even regional economic communities (within Africa and

beyond), is through the launch of functionality on the Key Performance Indicators (KPIs)' online platform. This allows signatories to capture product-related information such as site Global Positioning System co-ordinates, trade codes and countries of import and export. CAIA encourages all members to update their confidential product profiles using the platform, so that it is at hand when needed.

Although there will always be hazard, and associated managed risk, it is very unfortunate that fatalities still take place in industry - the chemical and allied industries being no exception. Members of CAIA that are signatories to the initiative continue to report fatalities. CAIA disaggregates the data into appropriate categories to glean information and trends where possible, in turn to consider programmes for industry. During 2021, there were five fatalities – again mostly attributable to road transportation-related (non-material-related) incidents occurring with in-house workers. Although it is encouraging that the contribution of "material"-related fatalities to the total has declined (of increased significance to our industry given the working definition of "material" that includes products of the industry, raw material, and waste), the root causes of non-material-related fatalities should be focused on.

A noteworthy result from the analyses of the 2021 operational year data shows that production decreased year-on-year, by a larger degree compared to other years in industry's recent past. This has the effect that KPIs reliant on production volumes to calculate efficiency, such as energy and water consumption, waste, and effluent discharge, all show deteriorated performance compared to 2019 and 2020 operations when production was higher. However, other environment-related indicators of performance that are not dependent on production – such as environmental incidents – also show concerning trends and it remains to be seen if increased reporting is impacting the statistics, or increased environmental incidents are taking place. While some of these results could be attributed to factors such as competitiveness, slowing demand and resource availability, they still

require attention due to pressures on resource (even feedstocks from the petrochemical industry) and business sustainability that are already being felt in South Africa. In other areas however, strong improved performance has been noted. The recordable injury incident rate improved almost across the board, and paying attention to the nature and root causes of these incidents could contribute, for example, to fewer fatalities.

Another important area of improvement was that more signatories had emergency response plans in place, and were regularly testing them with external stakeholder involvement.

I invite you to take a closer look at the activities of the association and signatories of the Responsible Care® Initiative in this performance report.



André Harding
Chairperson of the CAIA Board

Executive Director's Statement

It is interesting that my sentiments in previous reports regarding the need to work together, are becoming increasingly relevant given the challenges South Africa and the world are facing.



Deidré Penfold

In a recent presentation delivered by Professor Karim, his closing remarks were attributed to work undertaken in the AIDS arena and a statement by the United Nations AIDS (2015) that has become so relevant to the COVID-19 pandemic, and a number of other developing matters whether they be domestic policy, global viruses, climate change or sustainability.

“With a shared vision, shared responsibility and through global solidarity we can change the course of history.”

While it is encouraging to see this dire need being recognised, the coordination and effective implementation thereof is not happening fast enough to drive the change we want to see – something that the Chairperson emphasised in his statement.

However, by its very nature, an association is built to achieve just this, as it brings the value chain together and provides the opportunity for information on industry's successes to be

shared with stakeholders, and identify where increased focus may be needed in particular areas. The annual Responsible Care® Performance Report is a key messaging platform for all stakeholders to constructively influence the activities of the association and its members who, for the most part, are signatories to the global, voluntary initiative of the chemical industry that is Responsible Care®. After all, the initiative is perfectly placed to address implementation as it is a programme that relies on the sharing of ideas, continual improvement, and the external verification of performance.

Indeed, this report shares the chemical and allied industries' performance in South Africa. With the vast majority of production volume and value chain activities being represented by CAIA, the report provides a good indication of the trends in SHE performance from year-to-year, and over the last four years of operations. CAIA believes that the quality of the data that are used to analyse the performance is high, given the automated and manual verification that is undertaken, as well as engagements held with signatories.

Several strategic policy developments have occurred over the last year, in areas that are critical to the chemical industry and South Africa's sustainable growth path.

Domestically, these include areas relating to energy, water, and environmental management (atmospheric emissions, waste, and the new National Environmental Management Laws Amendment Act), chemicals management, and transportation.

The international arena is abuzz with negotiations and interactions with various sectors of society on the future of the chemical and waste sectors. Leading up to the fifth International Conference on Chemicals Management (ICCM5), it is extremely important that the private sector on the African continent, with South Africa taking a strong lead, participates. This will ensure that governments and NGOs do not speak on behalf of the industry, the latter who very often do not promote the industry in a positive manner.

Executive Director's Statement continued

As many will know, the United Nations Environment Assembly (UNEA) 5 took place earlier in the year in Nairobi, Kenya and the following priority resolutions and key actions relating to the chemical and waste sectors, were agreed upon, which are applicable to South Africa as well, namely:

- The call to end plastic pollution with a new treaty on plastic pollution to be negotiated in a very ambitious timeframe.
- The establishment of a Science-Policy Panel to support action on chemicals, waste, and pollution.
- To improve the sound management of chemicals and waste.
- Attention to be given to the future of the global environment outlook.
- Enhancing the circular economy.

Internationally, the work of countries that are party to existing multilateral environmental agreements continues unabated, with an intense focus on the upcoming ICCM5 where the future of the Strategic Approach to Chemicals Management (SAICM) will be determined. It should be noted that the African Union has proposed a global "tax" or "fee" on chemical companies of between 0.05% and 0.5% to finance SAICM.

The International Council of Chemical Associations (ICCA) of which CAIA is a member and serves on its board, has in recent negotiations successfully included the capacity building platform that forms a strong pillar of the ICCA and promotes awareness raising and implementation, to the SAICM agenda, rather than implementing a tax/fee which is a financial burden to companies.

A further strategic international area of focus that is expected to have an impact on South Africa's domestic chemicals management policy, is 'Chemicals in Products', which calls for increased disclosure on product labels.

Although the risk of climate change and the need to increase resilience to be able to adapt to more frequent extreme weather events is critical, as are efforts to reduce direct and indirect greenhouse gas emissions, other priorities such as those mentioned above, should not be overlooked.

In the energy policy space, CAIA has been involved with the development of the Presidential Climate Commission's Just Energy Transition Framework, as well as that of the Department of Mineral Resources and Energy. Through Business Unity South Africa (BUSA), CAIA has considered the industry's reliance and demand for gas for industrial use and has taken part in discussions on the role of gas in delivering energy security during the transition to the ambitious "net zero" goal for greenhouse gas emissions by 2050 – a critical topic given that gas supply is set to be constrained within the next two years. CAIA's executive engagements with Eskom Holdings SOC Ltd aim to contribute to ensuring that the needs of the industry and impacts on the ground from loadshedding are appropriately recognised. CAIA is supportive of the President's announcement and directives to the National Energy Crisis Committee that has been put in place to unlock policy and blockages to implementation, streamline decision-making processes and eliminate red tape issues. The critical issue is implementation without Government's interference. The recent announcement of a new board is welcomed, and it is hoped that action is taken to stabilise the supply of electricity to the country, albeit that there is an aging infrastructure.

CAIA's strategic involvement at senior levels within the national Department of Water and Sanitation, along with those of other sectors and business, has been positive over the last year. A number of engagements have taken place that are contributing to cementing the relationship between

the department and the private sector. Notable advancements have been achieved through bilateral and multilateral engagements, as a result of the new leadership of Minister Senzo Mchunu and the Director-General. The publication of the draft Water Use Licence Regulations and the use of new sector-specific Water Use Licence templates, as well as the publication of two critical draft policy documents – the National Water Resources Strategy 3 and the National Pricing Strategy for Water Use Charges – all signify change for the sector and those reliant on it. While the progress of policy considerations by the department is applaudable, members must take note of the potential impacts on pricing for water and water services, new licensing requirements that may come into play as well as new charges that are proposed to result in a full cost accounting model for the provision of water in South Africa. While such principles will be supported, costs must be rational, not duplicative, and finances well-managed. Areas such as non-revenue water and failing water treatment works have been called on for many years to be addressed and strong actions by Government – at the local, provincial, and national levels – will be sought to contribute to water and cost savings rather than subsidisation to cover costs.

In the chemicals management space, the responsible directorate within the DFFE is also the Designated National Authority for MEAs, such as the Rotterdam, Stockholm, Basel and Minamata Conventions, as well as the Montreal Protocol. As a party to the Conventions, it is South Africa's international legal obligation to implement elements of the MEAs as required. As such, CAIA is supportive of their rational domestication and takes part and even drives discussions and the development of policy and regulation in this regard. CAIA has been very involved with the development of the Prior Informed Consent Regulations (Rotterdam Convention) and provided inputs to the DFFE prior to their promulgation. Due to implementation challenges, CAIA advocated strongly for the regulations to be suspended and new regulations are under development.

Executive Director's Statement continued

In other environmental matters – both atmospheric emissions and waste matters have been important areas to continue to deal with through engagement with CAIA's work group members and Government. New regulations are being developed to enforce Priority Area Air Quality Management Plans, and the new definition of waste that has been assented to by the President through the enactment of the National Environmental Management Laws Amendment Bill, is gaining increased attention by sectors of the economy due to interpretation and scope challenges. Further consideration of policy and intention will be needed by the private sector and Government to ensure there is an appropriate balance between facilitating beneficiation and identifying and managing potential risk. Regarding the former, the need for all Spheres of Government to recognise the Atmospheric Emissions Licence compliance levels of the industry, as well as other sources of pollutants to poor air quality in priority areas, is becoming ever more critical so that over-regulation does not take place.

Although the Department of Transport and the private sector could work closer together, there has been movement in some areas of policy that are critical to South Africa's economic progress and improved competitiveness, such as the approval by Cabinet and publication of the white papers on National Transport Policy and National Road Policy. The intention of Transnet SOC Ltd to undertake a modal shift from road to rail as a part of the implementation of the Road-to-Rail Freight Mitigation Strategy – albeit a matter that has been called for over several years – should be carefully considered by the chemical industry value chain and service providers. Potential benefits to competitiveness and risk reduction need to be considered together with negative impacts on employment and business sustainability in the road freight sector that is already a very competitive space. A just transition must be realised during economic and structural transformation in the economy.

CAIA work groups, whether as a part of the Advocacy or Responsible Care® pillars, are proving to be valuable engagement platforms where smaller subsets of members are engaged in more frequent, short meetings to drive outcomes as they become necessary to move forward on a particular topic. This report details work groups that have been active over the past year, and their main achievements. Please take some time to review their outputs and alert CAIA should you want to become involved and contribute to the work undertaken.

CAIA looks forward to fruitful engagements over the next year where the key benefit of being a member – that being the opportunity to make a positive contribution to the chemical and allied industries, the environment and society as a whole – can continue to be realised by joining forces through the association's leadership.

I look forward to engaging with members on any aspect of the report, as well as to obtaining input on the role CAIA can play in shaping the chemical and allied industries into the future.



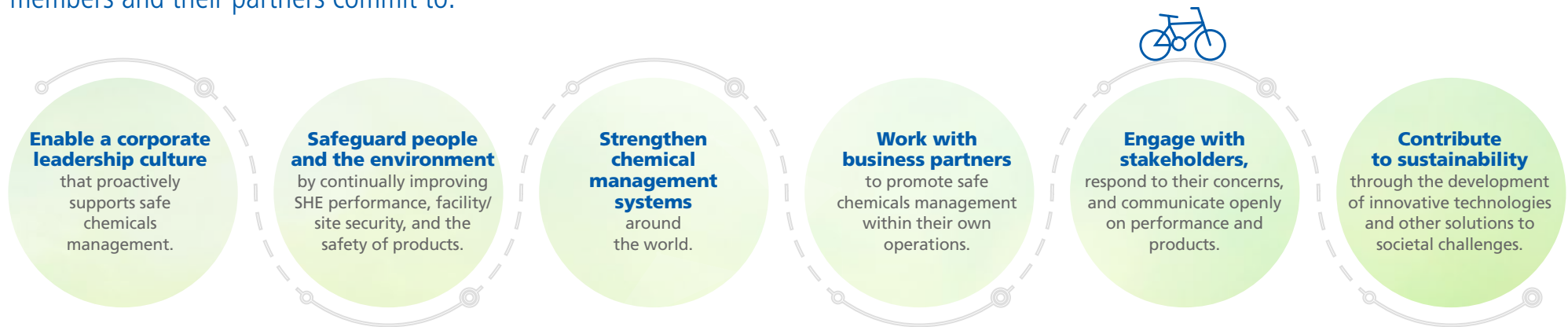
Deidré Penfold
Executive Director



Commitment to Responsible Care[®]

Responsible Care[®] is the global chemical industry's voluntary initiative to drive continual improvement in safe chemicals management and achieve excellence in SHE and security performance. CAIA and its members are committed to implementing Responsible Care[®]. Through Responsible Care[®], CAIA members and their partners commit to:

CAIA has been working with its members to implement and maintain the Responsible Care[®] programme in South Africa for the **past 28 years.**



Responsible Care[®] Implementation Milestones

The Responsible Care[®] Leadership Group (RCLG) has developed a set of implementation milestones for national associations to track progress. Based on the eight Fundamental Features of Responsible Care[®], these implementation milestones are intended to guide national associations as they work to build and grow Responsible Care[®] in their countries/regions.

The implementation milestones' criteria can be summarised as follows:



Initiating:

The association is considering a plan or programme to implement the feature but has not yet begun to implement it.



Developing:

The association is developing a plan or programme that establishes the feature.







Implementing:

The association has completed the development of the plan or programme to establish the feature and has in place the persons and/or processes necessary to maintain the feature and proceed with its continual improvement.

Commitment to Responsible Care[®] continued

The status of implementation of the **Fundamental Features of Responsible Care[®]** by CAIA and its members is shown below.

Fundamental Feature	Milestone Reached by CAIA	Milestone (Implementing) Criteria
<p>1 Guiding Principles</p>		<ul style="list-style-type: none"> • Agreed Guiding Principles confirmed by associations' boards. • Document distributed to all Chief Executive Officers (CEOs). • Signed commitments (or alternatives) being returned by CEOs. • Follow up on outstanding members commenced. • Member company contacts/coordinators appointed.
<p>2 Name, Logo</p>		<ul style="list-style-type: none"> • Member companies observing established rules. • Observance monitored. • Only members of the association are permitted to use the Responsible Care[®] name and logo.
<p>3 Codes, Guides</p> <p>A series of codes, guidance notes or checklists to assist companies to implement the commitment of Responsible Care to achieve continual SHE and security improvements.</p>		<ul style="list-style-type: none"> • Codes/Guide published to timetable. • Training sessions for member company coordinators held. • Codes/Guide implementation by members in progress. • Mechanisms in place for intercompany sharing of experience.
<p>4 Indicators</p> <p>The progressive development of indicators against which improvements and performance can be measured. Implementing indicator reporting commenced.</p>		<ul style="list-style-type: none"> • Continued interested parties' comments obtained. • Indicators are part of company sharing discussions. • Indicators made public.

Commitment to Responsible Care[®] continued

Fundamental Feature

Milestone Reached by CAIA

Milestone (Implementing) Criteria

5

Communications

An on-going association and member company process of communication on SHE and security matters with interested parties inside and outside the membership.



- Implementation of local processes proceeding to targets.
- Regular feedback from interested parties obtained. Issues addressed.
- Government reaction monitored and addressed.
- Media contact maintained.
- Responsible Care[®] communications are part of company communications strategy.
- Internal and external feedback or surveys of Responsible Care[®] awareness being obtained by most companies or by the association.

6

Sharing

Provision of fora in which company CEOs and Responsible Care[®] coordinators can share views and exchange experiences on implementation of the commitment.



- Regular CEO and Responsible Care[®] coordinator information sharing meetings should be held.
- Newsletter/communications commenced. Feedback obtained.
- Regional steering groups considered.
- Mutual aid and mentor partnerships considered.
- Specific issue working groups established.
- Participation in international industry-sharing arrangements undertaken.

7

Encouragement

Consideration of how best to encourage all association member companies to commit and participate in Responsible Care[®].



- Performance indicators monitored for both high and low performers.
- Mechanisms are in place to recognise high performers and assist less advanced companies.
- Processes for dealing with persistent poor-performers in place.

8

Verification

Systematic procedures to verify the implementation of the measurable (or practical) elements of Responsible Care[®] by the member companies.

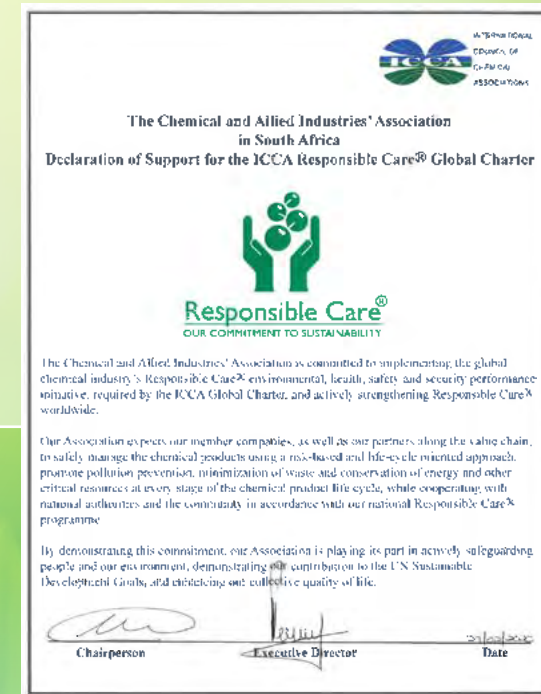


- Verification (internal or external) procedures in use.
- Verification results used to continually improve Responsible Care[®] implementation efforts.
- Verification results communicated by companies or the association to interested parties.

Commitment to Responsible Care[®] continued

Declaration of Support for the Responsible Care[®] Global Charter

On 27 February 2020, CAIA committed to implement Responsible Care[®] as required by the ICCA's Global Charter, and actively strengthen Responsible Care[®] worldwide. The Responsible Care[®] programme in South Africa supports collaboration among the chemical and related industries, national Government as well as local authorities to help facilitate best practices in sound chemicals management and sustainable growth.



Commitment to Responsible Care[®] continued

The Responsible Care[®] Global Charter

The Responsible Care[®] Global Charter is designed for individual companies that pledge to implement Responsible Care[®] in their operations globally. The Global Charter outlines the unified approach to implementing Responsible Care[®]. Three South African multinational companies have signed the Responsible Care[®] Global Charter.



Globally, more than **580** global chemical manufacturing companies, representing **96%** of the world's largest chemical companies, have **signed the Global Charter.**

Commitment to Responsible Care[®] continued

The Responsible Care[®] Declaration

CAIA and its members established Responsible Care[®] Guiding Principles for the South African Responsible Care[®] programme.

The Responsible Care[®] Guiding Principles establish a framework for company and association activities. The guiding principles are contained in a document called the Declaration.

The most senior executives of organisations [CEOs/Managing Directors (MDs)] demonstrate their commitment to Responsible Care[®] by signing the Declaration in the presence of their employees at a virtual signing ceremony organised by CAIA.

In South Africa, signatories are required to re-sign the Declaration every three years. A change in the organisation's name and/or most senior executive triggers the re-signing of the Declaration.

The following organisations signed/re-signed the Responsible Care[®] Declaration during the 2021-2022 reporting period (01 October 2021 to 30 September 2022).



Buckman Laboratories (Pty) Ltd – 19 November 2021



S Bothma and Son Transport (Pty) Ltd – 7 December 2021

Commitment to Responsible Care® continued



Reef Tankers (Pty) Ltd – 8 December 2021



RB Associated Logistics (Pty) Ltd – 9 December 2021



Avient South Africa (Pty) Ltd – 21 February 2022



Intertek Testing Services SA (Pty) Ltd – 9 March 2022



Commitment to Responsible Care[®] continued



Drizit Environmental (Pty) Ltd – 22 March 2022



AECI Specialty Chemicals, a division of AECI Ltd – 25 March 2022



BASF Holdings South Africa (Pty) Ltd – 28 March 2022



BASF Agricultural Specialities (Pty) Ltd – 28 March 2022

Commitment to Responsible Care[®] continued



Archwood Protection SA (Pty) Ltd – 11 April 2022



African Drum World (Pty) Ltd t/a Anchor Pail & Drum Reconditioners – 5 May 2022



Africa Bunkering & Shipping (Pty) Ltd – 19 May 2022



SGS South Africa (Pty) Ltd – 10 June 2022



Commitment to Responsible Care[®] continued



Bidvest International Logistics – Road Freight – 14 June 2022



SAFIC (Pty) Ltd – 15 June 2022



Gan-Trans (Pty) Ltd – 21 June 2022



Dasa Logistics Services CC – 23 June 2022

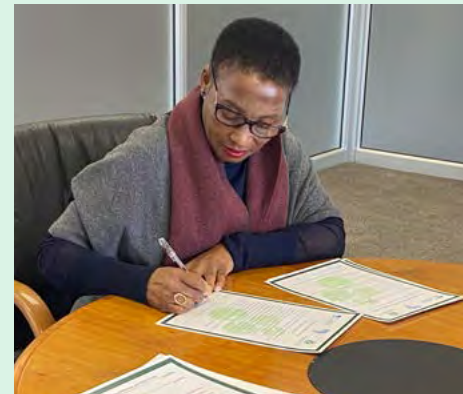


Commitment to Responsible Care[®] continued



Tanker Services Food and Chemicals, a division of Imperial Logistics South Africa Group (Pty) Ltd – 7 July 2022

NCP Chlorchem (Pty) Ltd – 21 July 2022



Paperkem (Pty) Ltd – 26 July 2022

NTP Logistics SOC Limited – 28 July 2022

Commitment to Responsible Care[®] continued



AEIM Chemicals (Pty) Ltd – 29 July 2022



Orion Engineered Carbons (Pty) Ltd – 10 August 2022



Gold Reef Speciality Chemicals (Pty) Ltd – 12 August 2022



Manline Energy (Pty) Ltd – 16 August 2022

Commitment to Responsible Care[®] continued



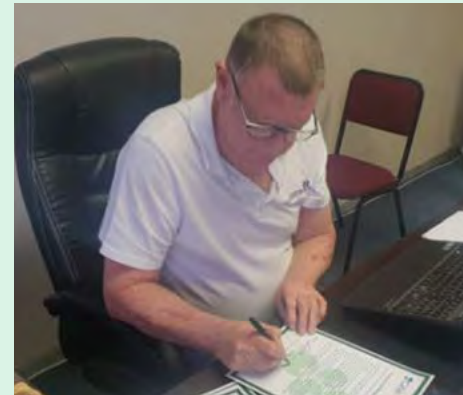
Eco Eye Waste Management (Pty) Ltd – 23 August 2022



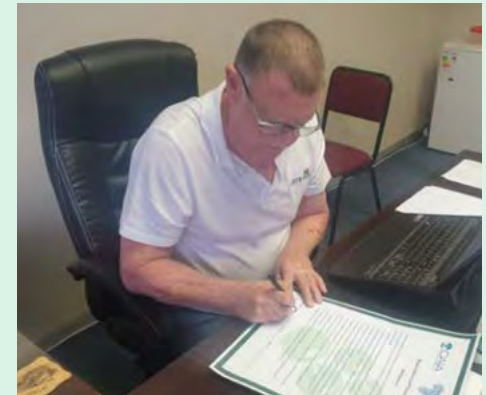
A-Thermal Retort Technologies (Pty) Ltd – 1 September 2022



Dow Southern Africa (Pty) Ltd – 1 September 2022



Simtrans CC – 12 September 2022



Commitment to Responsible Care[®] continued



Evonik Peroxide Africa (Pty) Ltd – 13 September 2022



Impro Logistics (Pty) Ltd – 15 September 2022



EnviroServ Waste Management (Pty) Ltd – 30 September 2022



**“Commitment is an act,
not a word.”**

Commitment to Responsible Care[®] continued

Implementing Responsible Care[®] in South Africa

Responsible Care[®] is implemented in South Africa according to the six elements of the Responsible Care[®] Global Charter.

The initiative is based on the Deming Cycle (PDCA Cycle), to achieve continual improvement. Responsible Care[®] started as an initiative of chemical manufacturers but has been extended to Logistics Service Providers (LSPs) in South Africa. The first step to becoming a Responsible Care[®] signatory is to sign up as a CAIA member.

Drivers of Responsible Care[®] in South Africa

The key driver from the beginning of the initiative was to gain public trust and engage stakeholders in dialogue about operations and products. In South Africa, the drivers of Responsible Care[®] have been extended to include:

- Sharing best practices and mutual assistance opportunities via networking.
- Improving performance and processes.
- Offering networking opportunities and connecting to stakeholders.
- Contributing to sustainability.
- Increasing leverage in policy debates by involving signatories to the Responsible Care[®] Initiative.
- Saving time and money.
- Improving worker, the public, and environmental protection.
- Enhancing reputation and licence to operate (public trust).
- Reducing risks of liability.
- Encouraging dialogue with stakeholders.

In a nutshell, these are part of the benefits realised by companies that implement Responsible Care[®] effectively.

The Key Role Players

CAIA and signatories to the Responsible Care[®] Initiative are the two main role players in the implementation of Responsible Care[®].

CAIA has the role of promoting and supporting the Responsible Care[®] programme amongst its existing members, attracting new members, and communicating the value/benefits of Responsible Care[®] to other stakeholders. Further roles that CAIA play include:

- Representing and involving its members in the development of national/regional and international standards, policies, and legislation.
- Promoting continual improvement and progressive development of Responsible Care[®].
- Assisting with sharing the learning of lessons from incidents and best practice through setting up relevant platforms such as the SHE Forum, Process Safety Forum (PSF), Chemical Logistics Management Forum (CLMF), Advocacy Committee and the Responsible Care[®] Standing Committee (RCSC).
- Collecting and reporting aggregate data on KPIs in line with current guidance and requirements from the ICCA.
- Implementing the eight Fundamental Features of Responsible Care[®].

Companies have a key role of practising Responsible Care[®] and earn the benefits from Responsible Care[®] implementation. Responsible Care[®] signatories have the confidence of regulators. After obtaining CAIA membership, companies wishing to practise Responsible Care[®] must:

- **Commit to Responsible Care[®]** – A formal commitment is achieved through the most senior executive of the company signing the Responsible Care[®] Declaration at a virtual signing ceremony organised by CAIA. Companies are encouraged to use the Responsible Care[®] logo which is internationally recognised.
- **Integrate Responsible Care[®] principles into the company's daily activities** – The company should translate the Responsible Care[®] principles into a management system which the company will operate, in line with Deming's PDCA Cycle approach.
- **Monitor performance** – Companies collect and report Responsible Care[®] KPIs to CAIA on an annual basis. They are used to measure the progress of signatories and determine whether Responsible Care[®] is having a positive impact on industry performance. This gives industry an opportunity to highlight improvements, and to be able to respond to any potentially negative aspects.
- **Self-assessment** – Companies practising Responsible Care[®] should self-assess the level of Responsible Care[®] implementation on an annual basis. This will enable companies to understand their level of implementation and identify opportunities for continual improvement.
- **Third-party verification** – Signatories are required to verify implementation of Responsible Care[®] using CAIA-certified independent auditors once every three years for full members and every two years for associate members.
- **Share best practices** – Active participation in committees, fora, work groups and other relevant platforms is encouraged by CAIA. Representatives from signatories are encouraged to share lessons learnt from past incidents and near misses, as well as management best practices.

Commitment to Responsible Care[®] continued

Key Documents

The key documents that set out the ethos of Responsible Care[®] and support each of the CAIA and signatory roles described earlier in this section are the:

- **Responsible Care[®] Global Charter.**
- **Fundamental Features of Responsible Care[®]** – The eight fundamental features are the guidelines on how national associations can discharge their role in promoting and supporting the implementation of Responsible Care[®].
- **Responsible Care[®] Codes of Management Practice (CMP)** – These internationally recognised codes were originally developed by the American Chemistry Council (ACC). They have now been adopted in several countries around the globe. CAIA has developed 10 CMP and an Audit Guidance Document (AGD) for manufacturers. The 10 CMP are:
 - » Management Commitment.
 - » Process Safety.
 - » Product Stewardship.
 - » Resource Efficiency.
 - » Emergency Response.
 - » Occupational Health and Safety (OHS).
 - » Pollution Prevention.
 - » Security.
 - » Stakeholder Engagement.
 - » Storage and Transportation.
- **Safety and Quality Assessment for Sustainability-AFRICA (SQAS-AFRICA) Questionnaires** – The SQAS-AFRICA questionnaires were developed by the European Chemical Industry Council (Cefic). CAIA adopted the questionnaires applicable to South Africa and modified them to suit local legislation and LSP operations in 2017. The questionnaires are divided into four categories, namely:
 - » Transport Service.
 - » Warehousing.
 - » Tank Cleaning.
 - » Spill Response.

The LSP categories are commonly audited against a further Core questionnaire.

Annual Performance Results

Associations are required by the ICCA to establish processes to collect KPI data from their members. The objective is to allow the association to measure progress of its members and determine whether Responsible Care[®] is having a positive effect on industry performance.

As programmes mature, associations may decide to share data internally with its members for benchmarking purposes. Sharing of aggregate member results and later company-level results can help address public concerns about industry performance. Work groups have been set up to provide platforms to discuss and improve KPI results.

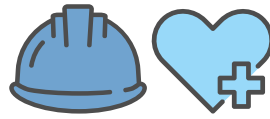
As part of its commitment to reporting global performance data, the ICCA has identified a set of KPIs that associations report on, annually. Associations can adopt the ICCA KPIs for their own KPI programme, or the association can adopt KPIs which are of greater value to their members and stakeholders. CAIA reviews the list of KPIs annually to ensure that member companies obtain value from the data analyses.

Rate-based safety and health indicators of performance are reported relative to hours worked. Manufacture includes formulation, repacking, blending, diluting and/or mixing; but not non-break-bulk operations. Environment-related indicators of performance are a function of the volume of traded product. Where production is used as the denominator to calculate efficiency, rates have been impacted by lower production during 2021 operations (9.3% lower) which has a compounding effect on the performance results.



Annual Performance Results continued

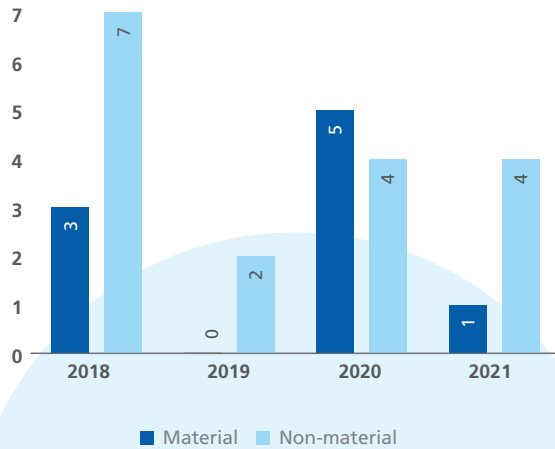
Safety and Health Indicators



Fatalities



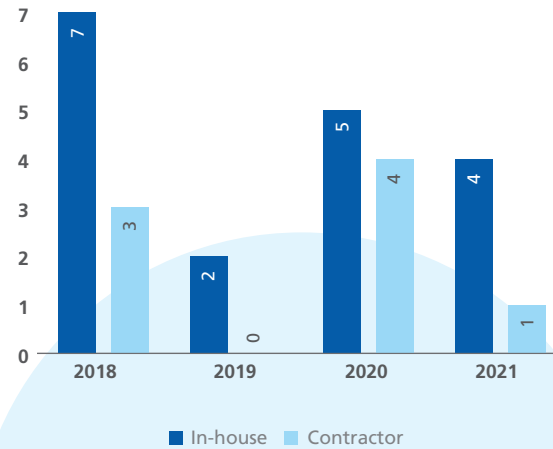
Number of fatalities



A total of **five fatalities** related to members' operations were reported.

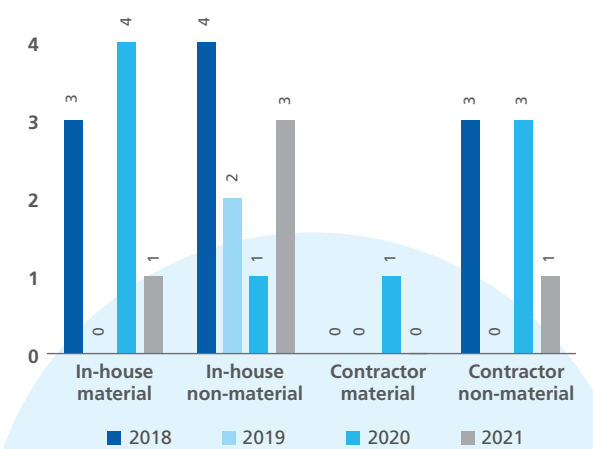
As previously observed, most fatalities were **non-material related**.

Number of fatalities



Most fatalities occurred in-house. Only one fatality was reported during contractor-related operations.

Number of fatalities



In-house, non-material-related fatalities accounted for three of the five fatalities that were reported.

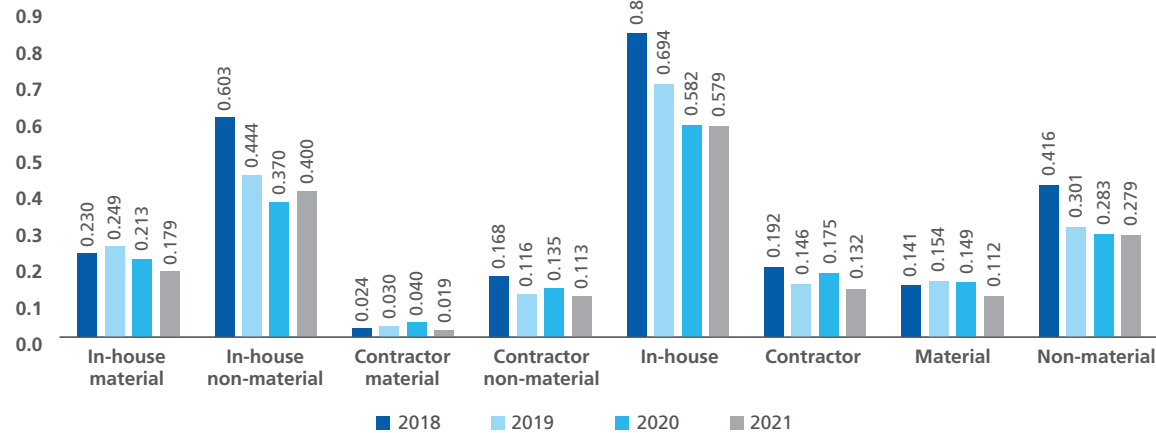
Material-related fatalities have decreased for both contractors' and in-house operations.

Annual Performance Results continued

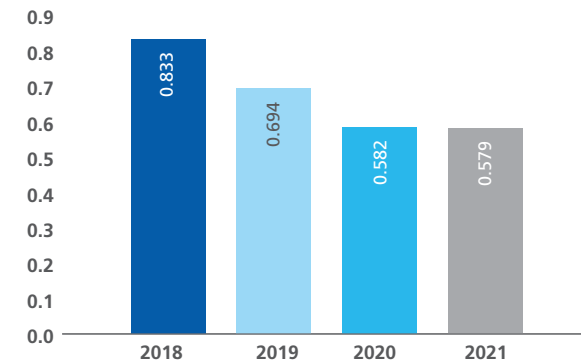
Recordable Injuries



Recordable injury incident rates (per 200 000 hours worked)



In-house recordable injury incident rate (per 200 000 hours worked)



Recordable injuries continue to decline, showing a

1.4%

reduction for non-material-related injuries and

24.8%

reduction for material-related recordable injuries.

Recordable injury incident rates decreased for in-house material-related, contractors' material-related and contractors' non-material-related activities, but an increase was reported for in-house non-material-related incidents.



There was **one in-house recordable injury** for every

345 423

hours worked.

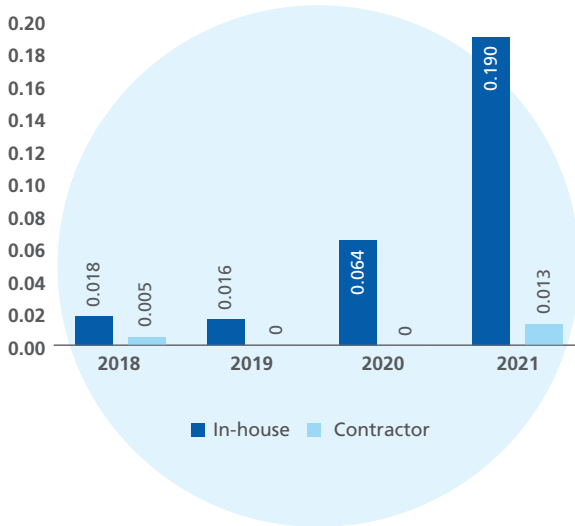


Annual Performance Results continued

Occupational Diseases



Occupational disease rate (per 200 000 hours worked)



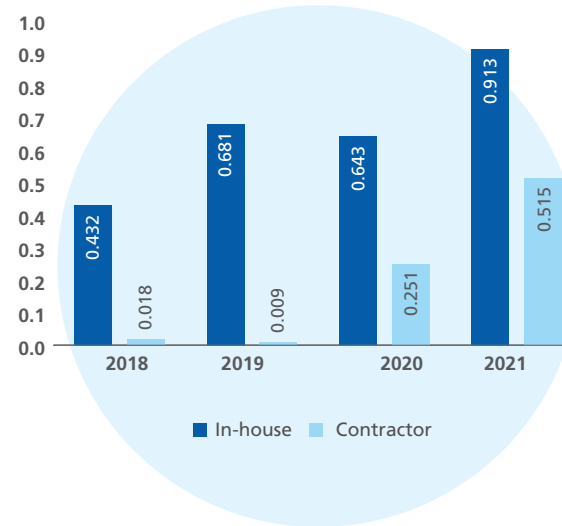
The in-house **occupational disease rate** has shown a **year-on-year increase**.

CAIA believes that this increase is due to reporting of **COVID-19-related workplace infections**. Companies were unsure how/whether to report infections under this indicator due to the difficulty of confirming COVID-19 infections resulting from workplace exposure.

Handling and Storage



Handling and storage incident rate (per 200 000 hours worked)



The **handling and storage incident rate increased** for both in-house and contractor activities, by

42.0%

and

105.2%

respectively.

The rates are at their highest levels since reporting under the new methodology was introduced.

The in-house incident rate is equivalent to **one incident** per

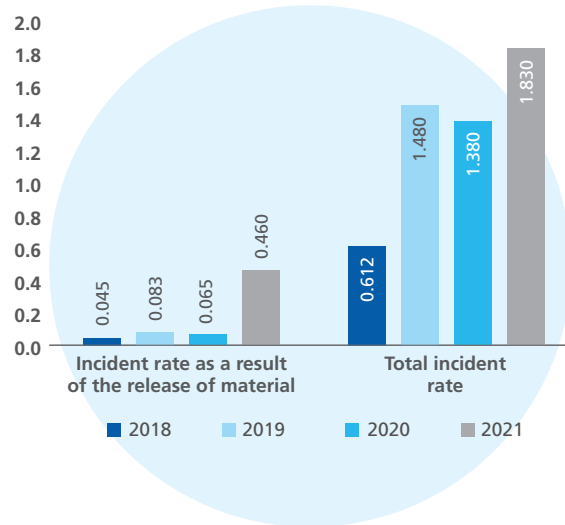
219 058

hours worked.



Annual Performance Results continued

Road Transportation


In-house road transportation incident rates
 (per 1 000 000 kilometres travelled)


There has been an **increase in the rate of road incidents** both for those caused by the release of material and overall, by

607.7%

and

32.6%

respectively.

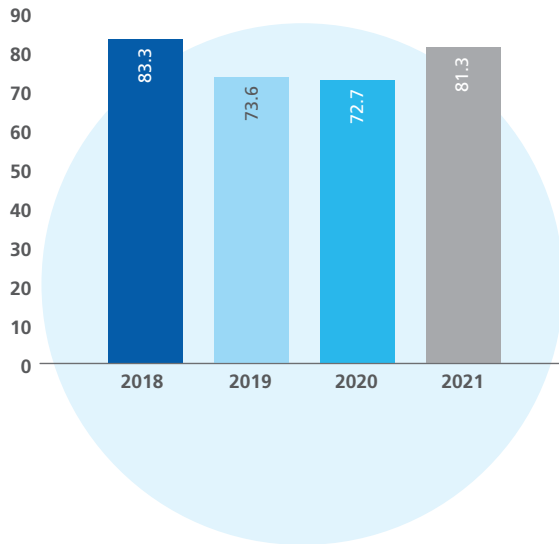
The increase in those incidents caused as a result of the release of material was thought to be attributed to improved reporting and understanding of what is considered an "incident" as well as the broad meaning of "as a result of".

Annual Performance Results continued

Behaviour-based Safety



Behaviour-based safety (%)



More than

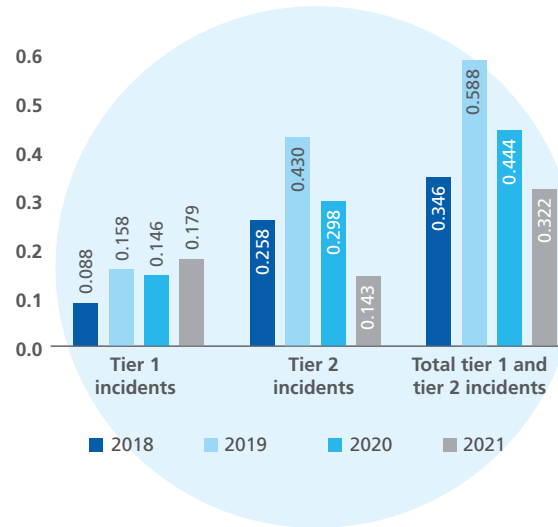
80%

of signatories reported that **behaviour-based safety programmes** for drivers and contractors were in place.

Process Safety



Process safety incident rate (per 200 000 hours worked)



Tier 1 process safety incident rates **increased by**

22.6%

while tier 2 incidents **decreased substantially by**

52.0%

Tier 1 and tier 2 incident rates combined, **decreased by**

27.5%

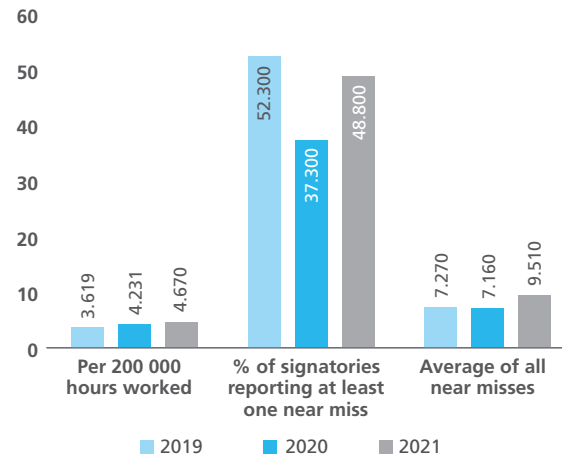


Annual Performance Results continued

Process Safety Near Misses



Process safety near misses (in-house)



The results from the three-process safety-related near-miss metrics tracked by CAIA have increased. The increase in near miss reporting is a positive trend whether due to improved reporting or from the perspective of more opportunities to avoid higher tiered incidents. A review of multiyear data will verify whether an increase in near misses corresponds to an increase in tier 1 and tier 2 process safety events.

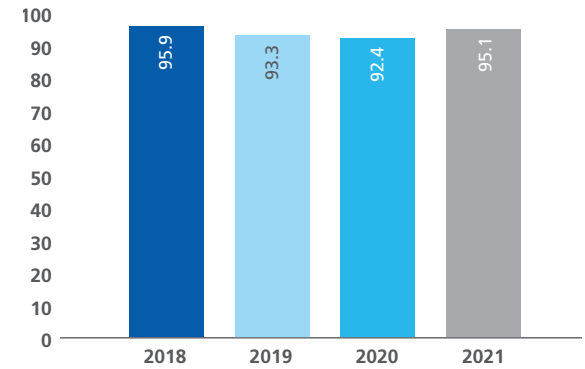
The metrics tracked and their respective increases are:

- Process safety near misses per 200 000 hours worked – 10.4%.
- Proportion of signatories that reported at least one near miss – 30.8%.
- Average of all near misses – 32.8%.

Responsible Care® Training



Responsible Care® training (%)



The percentage of signatories that have formal, documented Responsible Care® training in place stood at

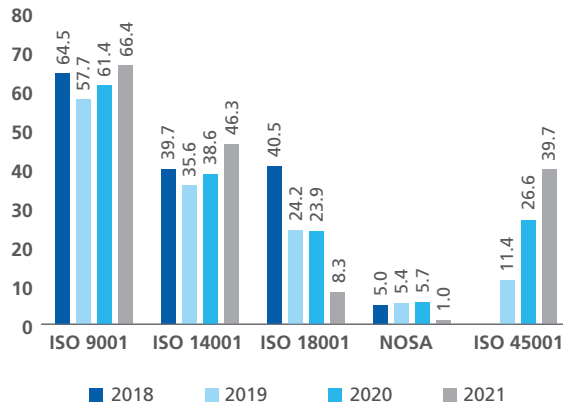
95.1%

Annual Performance Results continued

Management Systems



Management systems (%)



The replacement of ISO 18001 and NOSA with ISO 45001 continues with

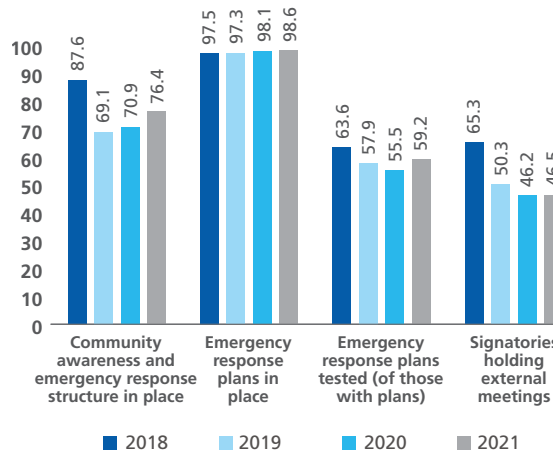
39.7%

of signatories now **implementing ISO 45001**.

Community Awareness and Emergency Response



Community awareness and emergency response indicators (%)



The proportion of signatories that have, or are involved with, a **Community Awareness and Emergency Response Structure** has increased to

76.4%

It is the second annual consecutive increase after the decline observed for 2019 operations.

Fewer external stakeholder meetings were taking place which is likely due to the **impact of the COVID-19 pandemic**.

The proportion of signatories reporting that an **emergency response plan** is in place is now at

98.6%

Unlike the decrease from 2019 to 2020, signatories testing their emergency response plans increased to

59.2%

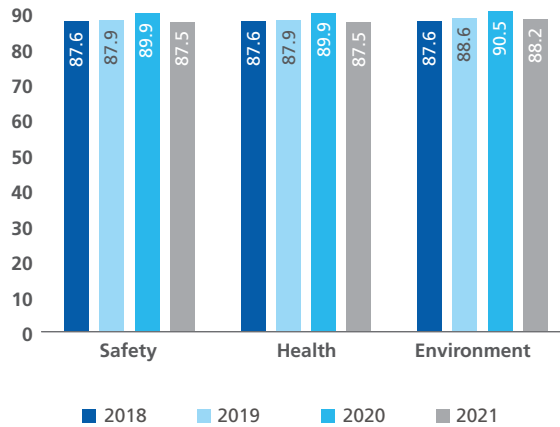
which **reverses the declining trend** since 2018.

Annual Performance Results continued

External Stakeholder Complaints

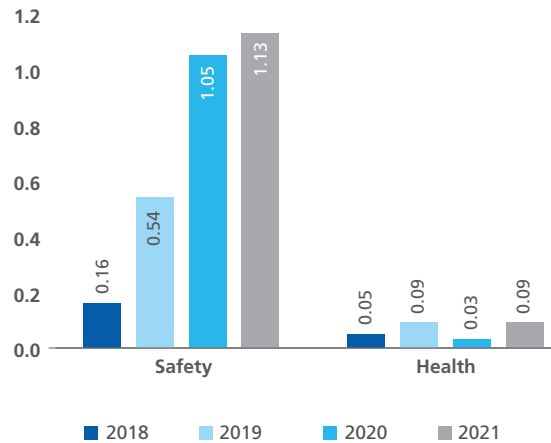


External complaints procedure (%)



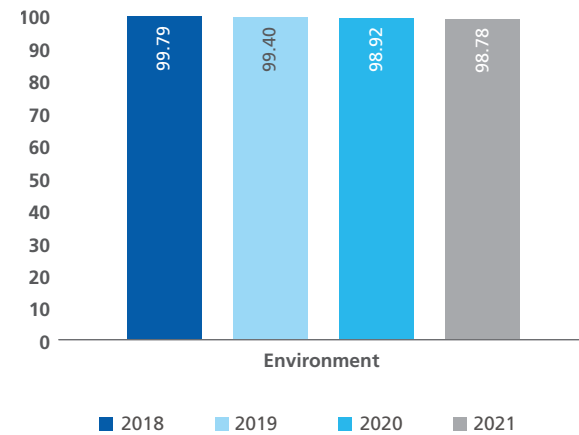
For external SHE complaints procedures, a **decline in the percentage was observed** for those signatories reporting to have them in place.

External stakeholder complaints (%)



External safety and health complaints, as proportions of the total for all three types of external complaints, **increased by a higher degree than in other years**, likely due to decreases in environmental complaints that were reported.

External stakeholder complaints (%)

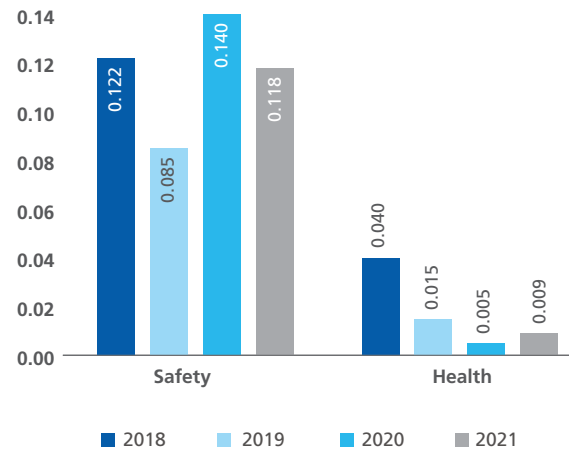


Annual Performance Results continued

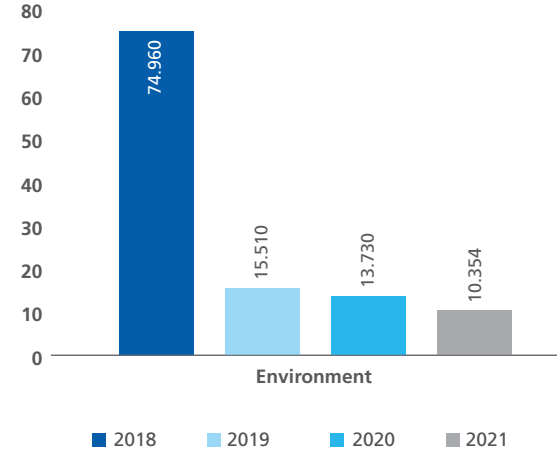
External Stakeholder Complaints continued



External complaint rate (per 200 000 hours worked)



External complaint rate (per 200 000 hours worked)



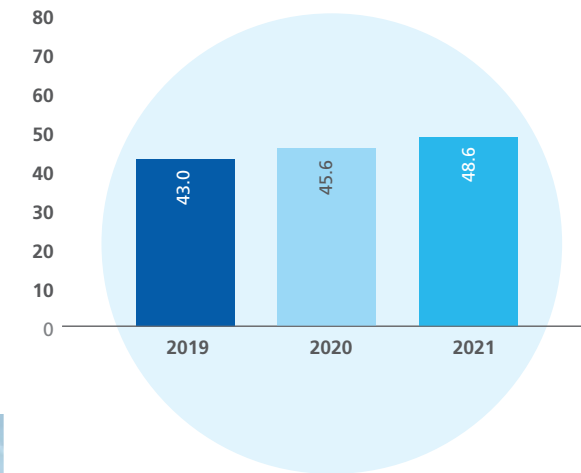
Relative to hours worked, external safety and **environmental complaints decreased**, but **external health complaints increased by**

80%

Desktop Simulation Exercises



Percentage of signatories undertaking desktop simulation exercises



Although less than half of signatories undertook desktop simulation exercises there has been a **steady increase in implementation.**

Annual Performance Results continued

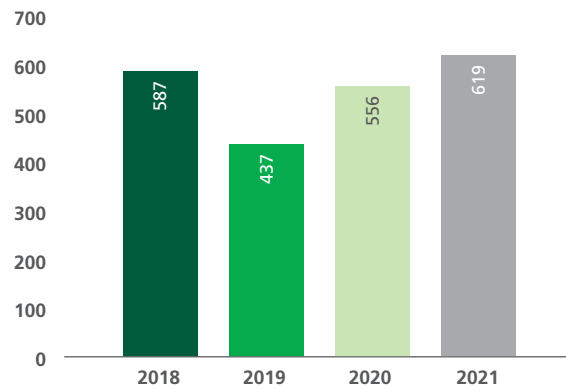
Environmental Indicators



Environmental Incidents



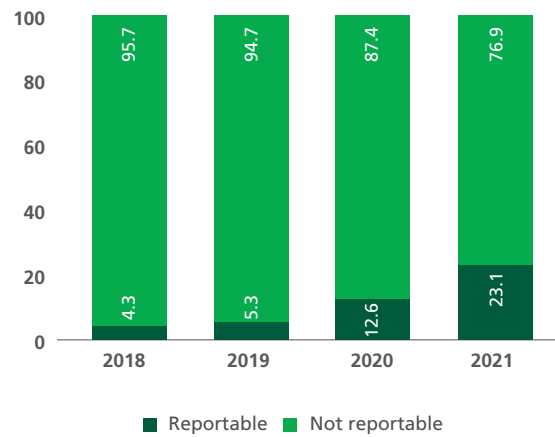
Total number of environmental incidents



The **number of environmental incidents** (legally reportable and those that are not) increased for a second consecutive year by

76.4%

Environmental incidents (%)



A **continuing increase**, up by

12.6%

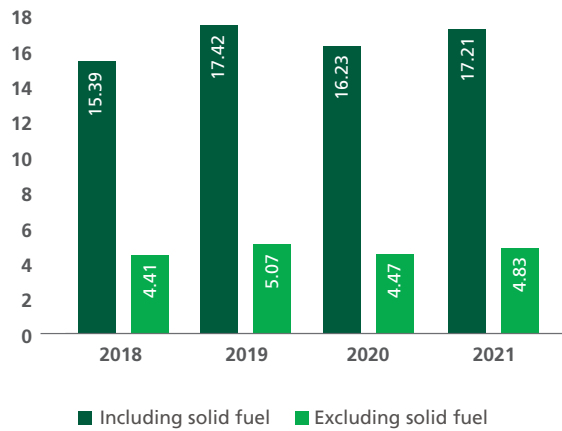
in the proportion of environmental incidents that are legally reportable was noted. This trend has been continuing since 2019.



Annual Performance Results continued

Energy Consumption 

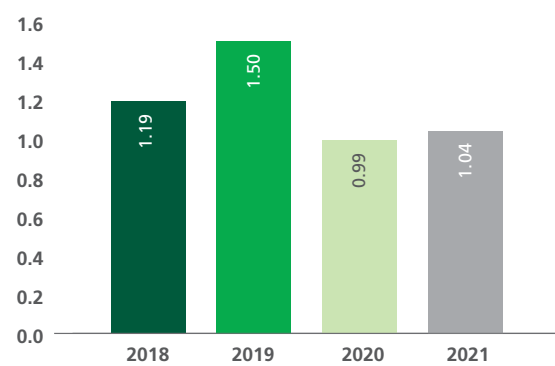
Energy consumption efficiency (gigajoules per tonne)



Energy consumption per tonne of traded product increased close to levels observed during 2019. **Energy efficiency decreased** whether solid fuel (primarily coal) was considered or not.

Electricity Consumption 

Electricity consumption efficiency (gigajoules per tonne)



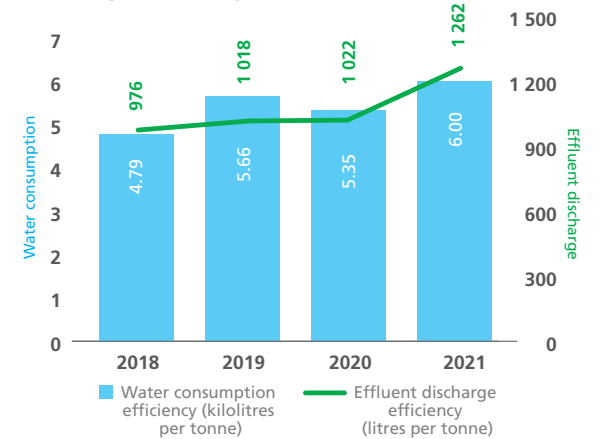
A smaller increase of

4.9%

was reported for **purchased electricity** used per tonne of traded product when compared to total energy use (6.0% with solid fuel, 8.2% without solid fuel).

Water Consumption and Effluent Discharge 

Water consumption and effluent discharge efficiency



A

12.2%

increase in water usage per tonne of traded product, and a

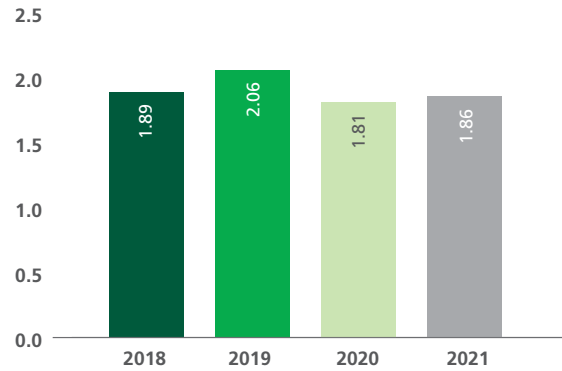
23.4%

increase in effluent discharge was noted.

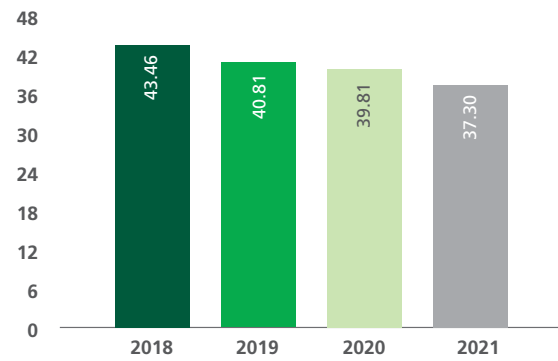
Annual Performance Results continued

Gas Consumption 

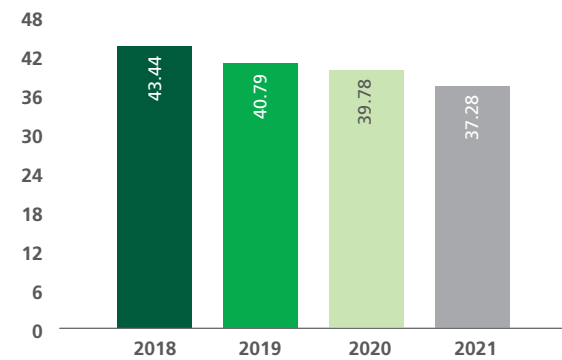
Total gas consumption (gigajoules per tonne)



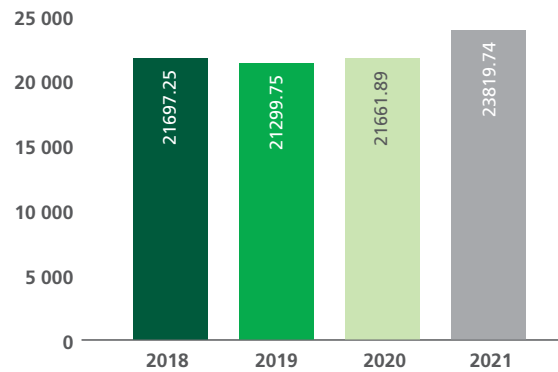
Total gas consumption (petajoules)



Natural gas consumption (petajoules)



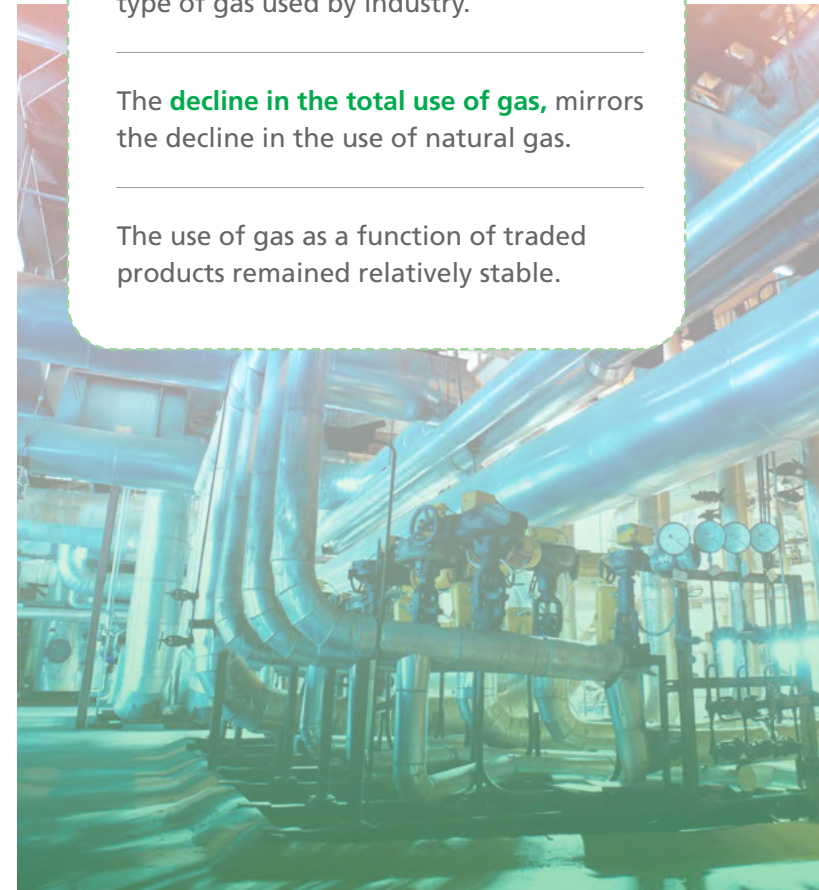
Liquid petroleum gas consumption (gigajoules)



Although the use of liquid petroleum gas is increasing, **natural gas dominates** the type of gas used by industry.

The **decline in the total use of gas**, mirrors the decline in the use of natural gas.

The use of gas as a function of traded products remained relatively stable.

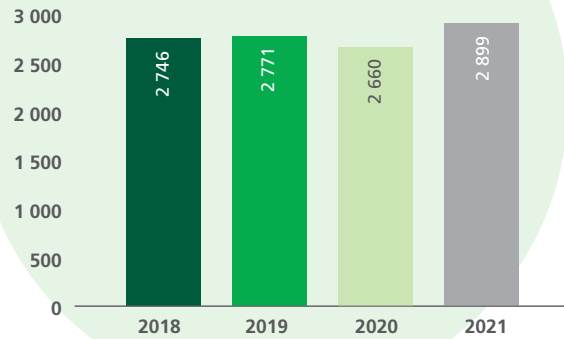


Annual Performance Results continued

Greenhouse Gas Emissions



Greenhouse gas emissions (kilograms carbon dioxide equivalents per tonne)

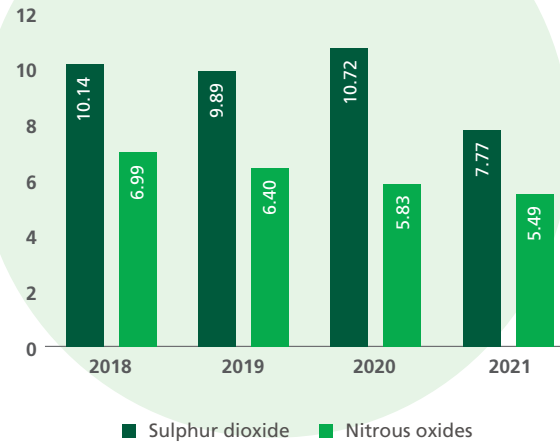


The increased rate observed for 2021 operations was likely due to the lower production volumes. A relative plateau in greenhouse gas emissions is observed as opportunities for mitigation become increasingly limited.

Other Emissions



Licensed emissions (kilograms per tonne)



CAIA continues to track the variation observed in licensed emissions.

Both **sulphur dioxide emissions and nitrogen oxides emissions** per tonne of traded product **decreased**.

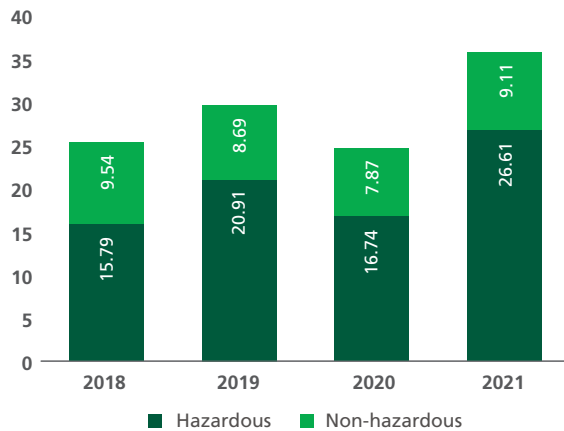


Annual Performance Results continued

Solid Waste



Solid waste generated (kilograms per tonne)

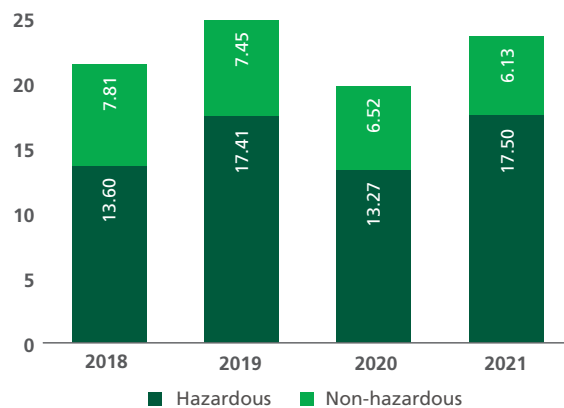


Total waste generated (hazardous and non-hazardous) per tonne of traded product increased by

45.1%

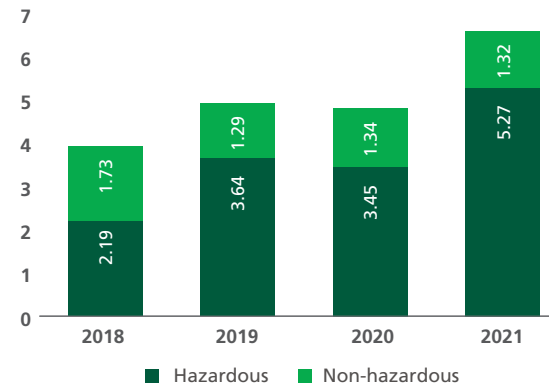
Although both types of waste increased per tonne of traded product, the greatest contribution was from an increase in the generation of hazardous waste.

Solid waste disposed (kilograms per tonne)



Similar to the trend regarding solid waste generated, the overall disposal rate increased due to the increase in the contribution of solid hazardous waste. The proportion of non-hazardous waste disposed, decreased.

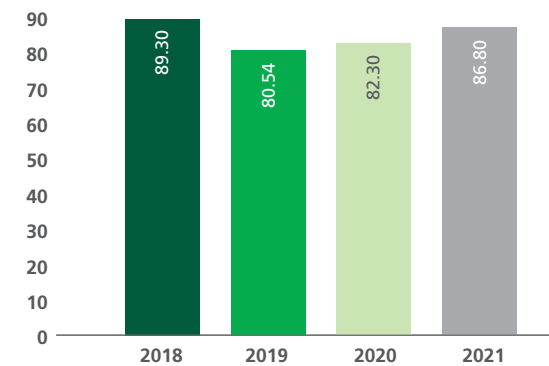
Solid waste recycled/recovered/reused/transferred - hierarchy (kilograms per tonne)



With the increase in the relative amount of solid waste being generated and disposed of, there is also an increase in the solid waste – per tonne of traded product – being driven up the waste management hierarchy.

During 2021 operations, 80% of solid waste that was not disposed of, was hazardous waste being moved up the waste management hierarchy.

Waste minimisation plans (%)



The proportion of signatories reporting that waste minimisation plans were in place continues to increase and stood at

86.8%

Members: Signatories as of 30 September 2022

Full members

AECI Limited

- AECI Industrial Chemicals, a division of AECI Ltd
- AECI Mining Chemicals, a division of AECI Mining Ltd
- AECI Mining Explosives, a division of AECI Mining Ltd
- AECI Plant Health, a division of AECI Ltd
- AECI Specialty Chemicals, a division of AECI Ltd
- ImproChem (Pty) Ltd t/a AECI Water

AEIM Chemicals (Pty) Ltd

Africhem Chemicals (Pty) Ltd t/a African Chemicals (Pty) Ltd

Archwood Protection SA (Pty) Ltd

Avient South Africa (Pty) Ltd

BASF Agricultural Specialities (Pty) Ltd

Bayer (Pty) Ltd

Bidvest International Logistics - Warehousing

Bidvest Tank Terminals

Brother CISA (Pty) Ltd

Buckman Laboratories (Pty) Ltd

Clariant Plastics & Coatings Southern Africa (Pty) Ltd

Clariant Sasol Catalysts (Pty) Ltd

Clariant Southern Africa (Pty) Ltd

Clariter ZA (Pty) Ltd

Darchem (Pty) Ltd

Dow Southern Africa (Pty) Ltd

Enaex Africa (Pty) Ltd

Evonik Peroxide Africa (Pty) Ltd

Fine Chemicals Corporation (Pty) Ltd

Gold Reef Speciality Chemicals (Pty) Ltd

Impala Platinum Limited

Industrial Distillers & Refiners (Pty) Ltd

Kevali Chemical Group (Pty) Ltd

Labchem (Pty) Ltd

Metsep SA (Pty) Ltd

NCP Chlorchem (Pty) Ltd

NuVest Recovery Solutions

Omnia Group (Pty) Ltd

- BME, a Division of Omnia Group (Pty) Ltd
- Omnia Fertilizer, a Division of Omnia Group (Pty) Ltd
- Protea Chemicals, a Division of Omnia Group (Pty) Ltd

Orion Engineered Carbons (Pty) Ltd

Orthochem (Pty) Ltd

Paperkem (Pty) Ltd

Pelchem Soc Ltd

Protank (Pty) Ltd

Richbay Chemicals (Pty) Ltd

Rolfes Chemicals (Pty) Ltd

SAFIC (Pty) Ltd

Safripol (Pty) Ltd

Sasol South Africa Limited

Syngenta SA (Pty) Ltd

Vopak Terminal Durban (Pty) Ltd

Associate members

A-Thermal Retort Technologies (Pty) Ltd

Africa Bunkering & Shipping (Pty) Ltd

Anmesh Investments CC

Averda South Africa (Pty) Ltd

BASF Holdings South Africa (Pty) Ltd

Bidvest International Logistics – Road Freight

Cargo Carriers (Pty) Ltd

Contract Logistics, Dedicated Contracts, a division of Imperial Logistics South Africa Group (Pty) Ltd

Dasa Logistics Services CC

Dawns Trucking (Pty) Ltd

Desert Rain Logistic Services (Pty) Ltd

Diraro Logistics

Dolphin Coast Landfill Management (Pty) Ltd

Drizit Environmental (Pty) Ltd

DS Transport Services CC

Eco Eye Waste Management (Pty) Ltd

Enviro-Tech SA (Pty) Ltd

EnviroServ Waste Management (Pty) Ltd

FBN Transport CC

G&H Transport and Repairs (Pty) Ltd

Gan-Trans (Pty) Ltd

Hazclean Environmental CC

HazQuip (Pty) Ltd

Heneways Freight Services (Pty) Ltd

Hi5 Storage and Logistics (Pty) Ltd

Impro Logistics (Pty) Ltd

Infinite Fleet Transport (Pty) Ltd

Interwaste (Pty) Ltd

Khanat CC

Local Bulk Haulage CC a division of Leopard Line Haul (Pty) Ltd

Makwande Supply & Distribution (Pty) Ltd

Manline Energy (Pty) Ltd

Momentum Logistics (Pty) Ltd

NTP Logistics SOC Limited

Onelogix United Bulk (Pty) Ltd

Peterbill Transport (Pty) Ltd

Rapid Onamandla (Pty) Ltd

Rapid Spill Response (Pty) Ltd

RB Associated Logistics (Pty) Ltd

RB&Son Transport (Gauteng) CC

Reef Tankers (Pty) Ltd

Road Bulk Services (Pty) Ltd

Runga Trans CC

S Bothma and Son Transport (Pty) Ltd

SA Landside Logistics (Pty) Ltd

Shipping and General Transport Services (Pty) Ltd

Simtrans CC

Spill Tech (Pty) Ltd

Spill Tech Industrial Cleaning (Pty) Ltd

Spill Tech Specialised Projects (Pty) Ltd

Stallion Transport (Pty) Ltd

Tanker Services Food and Chemicals – a division of Imperial Logistics South Africa Group (Pty) Ltd

UniTrans Supply Chain Solutions (Pty) Ltd – Chemicals Division

VASA Financing Corporation (Pty) Ltd t/a as Stellar Transport

Wardens Cartage CC

Westmead Local and Cross Border (Pty) Ltd

Zimbulk Tankers

Affiliate members

ABSA Corporate & Investment Bank

African Drum World (Pty) Ltd t/a Anchor Pail and Drum Reconditioners

Bureau Veritas Testing and Inspections SA (Pty) Ltd

Cosmetic, Toiletry and Fragrances Association (CTFA)

EQCSA (Pty) Ltd

Freightworx CC

Geomeasure Group (Pty) Ltd

Integrated Chemical Solutions (Pty) Ltd

Intertek Testing Services SA (Pty) Ltd

JC Auditors

K2018239548 (SA)(Pty) Ltd t/a Proconics

Leschaco (Pty) Ltd

Lisam South Africa (Pty) Ltd

MHI Risk Engineers

Plastics SA

S3 Logistix CC

Salvino del Bene (Pty) Ltd

SAPMA

SGS South Africa (Pty) Ltd

SHExcellence CC

Tutwa Consulting Group (Pty) Ltd

WSP Group Africa (Pty) Ltd

Committees

The ICCA requires national associations to provide platforms in which member company representatives can share views and exchange experiences on the implementation of Responsible Care[®]. CAIA has established the Advocacy Committee and Responsible Care[®] Standing Committee. The activities and accomplishments of the committees are summarised below:

Advocacy Committee



Chairperson: **Glen Malherbe** – CAIA

The Advocacy Committee was established to respond to members needs in the policy/legislative/regulatory space, as these issues impact day-to-day operations and investment in the sector.

The committee includes CAIA staff and senior representatives from member companies with technical and implementation experience, to ensure that company positions are mandated for further work to be undertaken by the association. As far as possible, member company diversity (size and activities) is included in the committee's representation, which allows a holistic view of issues to be considered by CAIA.

Matters that are tabled for discussion at quarterly strategic and weekly operational meetings are diverse in nature due to CAIA's broad advocacy mandate. Where necessary, work groups are established under the committee to deal with specific matters to which the entire membership is invited to participate.



Main objectives

- **To provide a cooperative environment where views can be shared and strategies developed, to:**
 - » **Enhance the chemical and allied industries' advocacy initiatives when responding to the development and amendment of legislation and/or policies by Government.**
 - » **Identify members' implementation challenges.**
- **To obtain constructive input to encourage the effective strategic review of policy and legislation so that there is an emphasis on the impact of legislation and policy, mitigate the pressures caused by increased regulation such as the cost of doing business, and facilitate continual improvement by Responsible Care[®] signatories.**
- **To consider policies and legislation at any Sphere of Government, and/or Organ of State.**



Summary of Activities and Accomplishments

- Two types of meetings are held: weekly meetings to keep members abreast of developments in the advocacy areas, and strategic quarterly meetings to identify and review relevant matters proactively.
- Quarterly meetings provide an update to committee members on CAIA's advocacy initiatives, as well as policy and legislative developments since the previous meeting.
- A quarterly Advocacy Update is provided to the committee before its general release to the CAIA membership.
- CAIA responds to members' questions, and invites and encourages members to raise policy, legislative and/or regulatory matters impacting their businesses and/or operations.
- Weekly meetings allow the prioritisation of emerging matters in response to the weekly Advocacy Alert and Trade Bulletin, and other communiques CAIA may distribute on an ad-hoc basis.
- The committee receives information from CAIA, and CAIA receives critical operational and technical-level information to advocate the views of members.
- Work groups of the Advocacy Committee are established as the need arises. Meetings of work groups are held when specific matters need attention. In this way, meetings and the consideration of matters become more focused.
- Along with the Advocacy Committee, all members are invited to participate in the work groups through the weekly Advocacy Alert, Trade Bulletin and/or ad-hoc communications.
- The list of active work groups changes to address specific areas of focus. Some work groups are revived at a later date when a particular matter requires consideration.
- The summaries on the activities of active CAIA advocacy-related work groups over the last year are given further in this report.

Committees continued

Responsible Care® Standing Committee

Chairperson: **Sandra Doyle** – Safripol (Pty) LtdVice Chairperson: **Kruben Pillay** – Sasol South Africa Limited

The RCSC is comprised of senior representatives from CAIA associate and full member categories, including fora chairpersons. Persons appointed to the RCSC have knowledge and experience in the implementation of SHE and security systems in the chemical and related industries. The committee meets quarterly to support CAIA and share learnings by discussing, analysing, and recommending solutions to all Responsible Care®-related matters impacting the chemical value chain.



Main objectives

- To sensitise CAIA and its members to public concerns that relate to the chemical industry.
- To identify areas for enhanced information exchange, dialogue and improved relations between association members and stakeholders which include identifying public information needs.
- To establish a continuing dialogue and information exchange between the association and its members and key thought leaders at the local, national, and regional levels.
- To establish collaborative efforts between association members, the association, and stakeholders along the chemicals value chain to address aspects of concern and opportunities to advance Responsible Care® and safe chemicals management.
- To define a coherent approach amongst association members to implement the elements of Responsible Care®.
- To provide specialist input on the elements of Responsible Care® and the CAIA strategy where required.
- To consider CAIA's proposals regarding the KPI Questionnaire on an annual basis and provide advice on metrics.



Summary of Activities and Accomplishments

- The KPI improvements for the 2022 season were identified and approved.
- The committee provided guidance on the sharing of confidential documents during RCMS audits.
- Discussions and sharing of information on:
 - » The CAIA Calendar, international events, and other relevant training courses.
 - » Fora activities and feedback from the CAIA Board.
 - » The ICCA Self-assessment Tool. Its integration into the CAIA audit processes will be assessed once it is published.
 - » The issue of the shortage of process safety auditors. CAIA reviewed the auditor training programme to build capacity.
 - » The publishing of the RCMS audit reports and the format to be used. Further discussion will take place at upcoming meetings.
 - » The new CAIA Water Award. Members approved the initiative.
 - » The KPI data assessment results. Webinars will be held to assist members in improving KPI data.
 - » The use of cannabis in South Africa. Legislation is being drafted on its use and members raised concerns on the impact of cannabis use at the workplace as it stays longer in an individual's system than alcohol.
- » The ICCA's RCLG activities. CAIA attended all monthly RCLG meetings that took place.
- CAIA gave feedback on:
 - » The South African Bureau of Standards (SABS) Status Report.
 - » Training.
 - » Regulatory matters.
 - » Responsible Care® member status.
 - » CMP and AGD.
 - » RCLG meetings.
- The Zulu and English GHS flyers provided by the ICCA were reviewed. CAIA will develop and publish its own posters.
- A discussion on the Sustainability and Climate Change Disclosure Guidance document published by the Johannesburg Stock Exchange (JSE) took place. The document will be considered during the development of the KPI Guideline.
- A forum/committee one-pager feedback template to be used by fora/committee chairpersons to report at meetings was developed and approved.
- The status of Major Hazard Installation (MHI) Regulations from the Department of Employment and Labour (DoEL) was provided regularly by CAIA.

Fora

The following fora fall under the Responsible Care[®] Standing Committee.

Chemical Logistics Management Forum



Chairperson: **Danie Jansen Van Rensburg** – Sasol South Africa Limited
Vice Chairperson: **Riëtte Lindeque** – Manline Energy (Pty) Ltd



Main objectives

- To promote and develop a safety culture for the activities related to the logistics management of chemicals.
- To facilitate an exchange of information between members on the activities related to logistics management of chemicals and industry best practice.
- To create an opportunity to establish dialogue between relevant stakeholders in the chemical industry.
- To participate in initiatives or provide guidance on initiatives concerning the SHE impacts of activities related to logistics management of chemicals.
- To identify concerns and create mechanisms to find solutions regarding the activities related to logistics management of chemicals.
- To raise environmental strategic, policy, legislative and implementation matters for discussion, and for the attention of the CAIA Advocacy Committee, for which work groups may be established.
- To discuss, through the CAIA Advocacy work groups, draft and/or finalise voluntary and/or legislated standards from a technical perspective, if necessary.



Summary of Activities and Accomplishments

- The SQAS-AFRICA Management System performance was reviewed at every meeting. Software was procured to assist in managing audits. CAIA will be promoting the SQAS-AFRICA Management System to countries on the African continent.
- The Railway Safety Regulator gave feedback on its activities:
 - » Dangerous goods transporters continue to be audited.
 - » A risk maturity model was developed.
 - » Training and awareness, covering standards that are more related to safety management systems is in progress.
 - » Monitoring compliance regarding COVID-19 regulations was done through inspections.
- Discussions and sharing of information on:
 - » Cross-border transport matters. This included concerns on the undertaking of cross-border route risk assessments, issues at the Lebombo, Kazungula and Beitbridge border posts, as well as toll fees and driver facilities at the various posts. The Border Management Agency (BMA) has been established and border guards have recently been deployed.
 - The National Disaster Management Centre (NDMC) prepared a draft bill on fire services which was distributed for comments. It is also working on simulation exercises in collaboration with municipalities in different provinces.
 - Updates on chemical handling and distribution-related legislation were given at all meetings.
 - » The SABS Standards Division Dangerous Goods Status Report.
 - » Dangerous goods permits for transporters. Transporters will no longer have permits that have indefinite expiry periods as in the past.
 - » SQAS-AFRICA auditor list and activities.
 - » Updates on the RTMS. A second RTMS certification body has been approved by SANAS.
 - » The placarding or marking of vehicles transporting dangerous goods as prescribed by SANS 10232-1.
 - » Accidents on the country's roads, as they lead to an increase in the amount of damaged goods reaching customers. A guideline on reducing transportation incidents is in the pipeline from one of the CLMF work groups.
- A CAIA representative was nominated to be part of the persons representing SABS/TC 1060 SC03 at the African Organisation for Standardisation (ARSO)/TC 35: Transportation of Dangerous Goods.
- Updates on the high cube container requirements were given. No moratorium is in place as the Department of Transport has changed its approach and is driving an agenda that will see high cube containers being transported via rail networks.
- Feedback from work group activities was shared at meetings.
- Disruptions on the country's roads due to various causes affected the flow of goods being transported nationally, creating additional costs to the logistics value chain. The South African Revenue Service (SARS) strike at border crossings also affected the movement of vehicles.
- A joint mock emergency drill by two signatories took place on one of the provincial routes. Details on the drill outcomes will be shared with other signatories.
- Government departments are part of the meetings and are encouraged to participate.

Fora continued

Process Safety Forum



Chairperson: **Neil Franklin** – Chairperson: AECI Ltd
Vice Chairperson: **Ngaka Mogale** – Sasol South Africa Limited



Main objectives

- To enable the prevention of catastrophic process safety incidents through an effective risk-based Process Safety Management (PSM) system.
- To provide a platform that addresses industry process safety challenges and further meets these requirements through successful implementation of the CMP and industry best practices.
- To facilitate an exchange of information and dialogue between members on process safety.
- To support a process safety culture within applicable chemical and allied industries' organisations and strengthen the role of process safety practitioners.
- To build process safety competencies in South Africa, both within member companies, as well as third-party consulting and auditing bodies.
- To address industry concerns regarding the CMP, AGD and KPIs.
- To encourage inherently safer design, operation, and maintenance of chemical facilities.
- To monitor and seek international best practices for process safety and introduce them to South Africa.
- To support CAIA's advocacy initiatives in relation to process safety policies, legislation, and codes of practice.



Summary of Activities and Accomplishments

- Presentations with the following titles enabled the sharing of information and experiences:
 - » Bursting Disc Rupture.
 - » Learnings and Best Practice.
 - » Lost Time Injury.
 - » A Process Safety Event at a South African Company in 2007.
 - » Loss of Containment.
- The following topics were identified for discussion to share knowledge and experiences:
 - » Process Safety Knowledge Transfer in Industry.
 - » Engineering Training Processes – Job profile examples for Process Safety Engineer/Specialist.
 - » The UPL Cornubia warehouse fire incident. Scenario planning, fire management and emergency response, as well as the knowledge of best chemical storage practice and compatibility were found to be of paramount importance. CAIA will consider training on good practices around chemical storage, segregation, and chemical compatibility.
- Input into the Process Safety Conference topics was provided by members.
- The PSF members approved the draft Standard Operating Procedure (SOP) Guideline.
- A webinar on the storage, handling and transportation of ammonium nitrate was held on 5 September 2022.
- An update on process safety-related legislation was provided by CAIA at every meeting.



Fora continued

Safety Health and Environment Forum



Chairperson: **Ramesh Dhoorgapersadh** – BME, a Division of Omnia Group (Pty) Ltd
Vice Chairperson: **Sean Doel** – WSP Group Africa (Pty) Ltd



Main objectives

- Promote sharing of information and best practices.
- To support CAIA's advocacy initiatives in relation to SHE policies, legislation, and industry best practice (and other requirements).
- To ensure that members participate in discussions on SHE topics in a theme-based format including but not limited to:
 - » Environment.
 - » Occupational health.
 - » Occupational hygiene.
 - » Occupational safety.
 - » Awareness and promotional programmes.



Summary of Activities and Accomplishments

- An update was given on the directive issued to all companies by the DoEL regarding the need for on-site risk assessments to establish which jobs required compulsory vaccination for COVID-19.
- Presentations with the following titles were delivered at meetings to share knowledge and experiences:
 - » Lost Time Injury.
 - » Environmental Spills and Leaks. Members agreed that risk assessments should be conducted, and measures put in place to prevent spills and leaks.
 - » Construction Regulations.
 - » Office Safety and Illumination.
 - » Incident/Accident Investigation.
- » Office Safety.
- » Working at Heights.
- » Incident Learnings and Recalls.
- Feedback on SHE-related legislation, work groups and changes to systems was provided by CAIA at every meeting.
- Feedback on work group activities was shared at every meeting.
- Feedback on upcoming networking sessions and training was provided by CAIA.
- More specialist presentations on health surveillance topics, such as hearing loss and post-COVID-19 challenges, will be the forum's next focus.

The Responsible Care[®] Management System Auditors' Meeting



Chairperson: **Amon Nyamhingura** – CAIA



Main objectives

- To continually improve the RCMS by:
- Reviewing relevant documentation.
 - Discussing emerging information and processes that affect the RCMS.
 - Ensuring auditors are up to date regarding RCMS knowledge.
 - Sharing knowledge and experiences.



Summary of Activities and Accomplishments

- The ViaSyst audit management software capabilities were shared.
- Training of auditors on the ViaSyst audit management software was accomplished.
- The AGD was distributed for comments. Comments received will be reviewed and finalised after the ViaSyst audit management software testing has been completed.
- The witnessing of audits by trainee auditors was discontinued. Trainee auditors will be qualified to audit after passing the exam.
- Auditors were requested to be objective when conducting audits and provide scores that assist companies to identify opportunities for improvement.

Fora continued

The SQAS-AFRICA Auditors' Meeting



Chairperson: **Amon Nyamhingura** – CAIA



Main objectives

To continually improve the SQAS-AFRICA Management System by:

- Reviewing relevant documentation.
- Discussing emerging information and processes that affect the SQAS-AFRICA Management System.
- Ensuring auditors are up to date regarding auditing and changes in relevant legislation.
- Sharing knowledge and experiences.



Summary of Activities and Accomplishments

- Training of auditors on the ViaSyst audit management software was accomplished.
- The frequency of auditee health and safety committee meetings was reviewed. Auditees will be given a six-month grace period to be able to prove the frequency of meetings as stipulated by legislation.
- A discussion was held on annual medical requirements for the SQAS-AFRICA Management System. It was agreed that *“Medicals shall be conducted by an Occupational Health Practitioner/Registered Health Practitioner once every 24 months as a minimum, according to the law or at least as determined by the risk assessment”*.
- The ViaSyst audit management software capabilities were shared. Improvements to the SQAS-AFRICA Management System documentation will be finalised after completion of the testing of the ViaSyst audit management software.
- The issues identified during testing of the ViaSyst audit management software were considered and some of them will be referred to the software developers.
- Trainee auditors were encouraged to contact CAIA whenever they encountered problems regarding the witnessing of audits.
- The partial audits procedure was discussed. Auditors were instructed to send partial audits to CAIA, together with the signed “front page” of the report.
- CAIA will be reviewing the SQAS-AFRICA Management System organisational structure before finalising the appointment of the Technical and Accreditation Committee members.
- It was agreed that the minimum audit time to be taken by auditors was two days.

Work Groups

The following work groups are overseen by the Responsible Care[®] Manager and chaired by representatives from the CAIA membership.

Process Safety Leadership and Culture Work Group



Chairperson: **Lerushan Naiker**
Buckman Laboratories (Pty) Ltd



Main objectives

- To develop guidelines and checklists that can be used by industry to reduce process safety incidents.
- Assist in the improvement of process safety culture within the chemical and related industries in South Africa, by providing guidelines.
- Assist in obtaining leadership commitment to process safety implementation.



Summary of Activities and Accomplishments

- A Process Safety Self-assessment Tool for Senior Executives will be sent for approval by the RCSC.
- The members are looking at publishing short articles on leadership and culture in process safety on a quarterly basis.
- The members are currently working on a position paper on culture maturity.

Reduction of Equipment and Machinery-related Incidents Work Group



Chairperson: **Thuthukani Ndlovu**
BME, a Division of Omnia Group (Pty) Ltd



Main objectives

- To increase the knowledge and understanding of the disaster phenomenon.
- To ensure skills and abilities to analyse potential effects of disasters.
- To ensure skills and ability to design, implement and evaluate research on disasters.



Summary of Activities and Accomplishments

- Each work group member will research and present on incidents of machine-related failures. The aim is to share learnings in the SHE Forum meetings.
- The research areas were identified by the work group and members are currently finalising the presentations.

Work Groups continued

Reduction of Handling and Storage Incidents Work Group

Chairperson: **Linette Prinsloo**
Rapid Spill Response (Pty) Ltd

Main objectives

- Reduction of handling and storage incidents within the chemical and related industries.



Summary of Activities and Accomplishments

- CAIA (as part of the work group) is drafting a guideline on the handling and storage of chemicals.

Reduction of Process Safety Incidents Work Group

Chairperson: **Joseph Sindane**
AECI Mining Explosives, a division of AECI Mining Ltd

Main objectives

- To formulate guidelines and platforms to assist industry in reducing process safety incidents in the chemical and related industries in South Africa.
- To identify typical failure mechanisms in process safety events within South Africa and internationally.
 - » Listing root causes.
 - » Strategies on how to reduce process safety-related incidents.



Summary of Activities and Accomplishments

- The SOP Guideline was approved by the PSF and will be sent to the RCSC for approval.
- Proposed changes to the AGD, based on the SOP Guideline, were provided by the work group. The changes will be discussed further with the RCMS auditors, and any changes will be sent for approval by the RCSC. Changes will be incorporated into the AGD after the testing of the ViaSyst audit management software has been completed.
- The chairperson will draft a Best Practice Guideline for comments by members.

Reduction of Road Transportation Incidents Work Group

Chairperson: **Zukiswa Makunga**
BASF Holdings South Africa (Pty) Ltd

Main objectives

- Reduction of transportation incidents.



Summary of Activities and Accomplishments

- The Road Transport Safety Guideline is being finalised by CAIA for approval by the CLMF and then by the RCSC.

Work Groups continued

Safe Chemical Handling Work Group

Chairperson: **Linette Prinsloo**
Rapid Spill Response (Pty) Ltd

Main objectives

- Raise awareness on the Product Stewardship Code, OHS Code and Storage and Transportation Code.
- Raise awareness on GHS requirements.
- Assist in improving SHE KPIs related to safe chemical handling.



Summary of Activities and Accomplishments

- A Behaviour-based Safety Code and the AGD questionnaire were drafted and are in the process of being finalised.

The following work groups are under the Advocacy Committee and are chaired by Glen Malherbe from CAIA.

Agricultural Remedies Regulations Work Group



Main objectives

- Consider and discuss the draft Agricultural Remedies Regulations released by the Department of Agriculture, Land Reform and Rural Development, in terms of their potential socio-economic impacts on the chemical and agricultural sectors.
- Determine if there are existing feasible alternatives to substances intended to be phased out.
- Alert and include other related CAIA Advocacy work groups: Pesticides Work Group, Fertilizer Work Group.
- Consolidate information for submission and engagement with the department via the Registrar.



Summary of Activities and Accomplishments

- Following the establishment of the work group there was strong interest in participation from a core group of members.
- Related work groups were combined to ensure any member that had already notified CAIA of an interest in the agriculture environment was alerted and invited to participate in the review of the draft regulations that were initially published in June 2021.
- An indication of potential impact was obtained and discussed, and a submission made to the Registrar. The work group held an engagement with the Registrar, whereafter it became clear that there would be negative impacts on the sector should the regulations be promulgated.
- CAIA proposed a structured way forward for the provision of information to the department and requested feedback and further information from the Registrar regarding criteria for decision-making and the process to follow.
- Members are preparing their own motivations on the basis that CAIA proposed, while awaiting feedback from the Registrar

Work Groups continued

Air Quality Work Group



Main objectives

- The work group was established to provide a forum for members to raise air quality-related challenges and for CAIA to discuss related matters with members as they arise.
- Two task teams were previously established: Small Boilers; Odour/ Hydrogen Sulphide.



Summary of Activities and Accomplishments

- There was no need for task team meetings to be held.
- The work group met regarding the draft Priority Area Air Quality Management Plans Regulations being developed by the DFFE.
- A submission to the DFFE was made following work group meetings that considered pre-Gazette draft regulations.
- A bilateral engagement was insisted upon by CAIA to alert the department to principled concerns with the proposed regulations, prior to their formal publication in the Government Gazette for public comment.
- Work group members have considered the formal draft regulations, and a work group meeting has highlighted the most important areas to focus the subsequent revised submission on.

Chemical Inventories Work Group



Main objectives

- To review draft and final chemical inventories that are developed by Government, especially those of the DFFE, from a chemicals management perspective.
- To identify policy and legislative risks, as well as where information needs to be updated to accurately reflect the domestic situation.
- To submit supplementary information to be included in inventories.
- To ensure that there is engagement with Government on the development of chemical inventories for rational, risk-based, informed decision-making.



Summary of Activities and Accomplishments

- The following chemical inventories have previously been considered by the work group:
 - » Mercury Inventory and National Implementation Plan (Minamata Convention) – no longer a part of the Chemical Inventories Work Group deliberations but considered separately with interested members.
 - » Hazardous Industrial Chemicals Inventory.
 - » Polychlorinated Naphthalenes, Polychlorinated Biphenyls and Short-Chain Chlorinated Paraffins Inventory.
 - » Highly Hazardous Pesticides Inventory.
 - » Persistent Organic Pollutants Inventory and update to the National Implementation Plan (Stockholm Convention).
 - » Endocrine Disrupting Chemicals.
 - » Environmentally Persistent Pharmaceutical Pollutants Inventory.
 - » Lead and Cadmium Inventory.
- The SAICM Emerging Policy Issues and other issues of concern were considered on the basis of matters being combined by the DFFE to align with SAICM priorities, so that funding for work to be undertaken by the department may be more readily obtained. The broad theme of emerging substances of concern internationally include:
 - » Lead in paint.
 - » Chemicals in products.
 - » Hazardous substances within the life cycle of electrical and electronic products.
 - » Nanotechnology and manufactured nanomaterials.
 - » Endocrine-disrupting chemicals.
 - » Environmentally persistent pharmaceutical pollutants.
 - » Perfluorinated chemicals and the transition to safer alternatives.
 - » Highly hazardous pesticides.

Work Groups continued

Chemicals Management Education and Awareness Raising Strategy Work Group



Main objectives

- To enable CAIA's participation in the subcommittee of the DFFE's Multistakeholder Committee on Chemicals Management (MCCM) that was established to develop and implement activities aimed at educating and raising awareness on chemicals management matters.
- To identify risks and opportunities in the chemicals management space, such as funding being called from the private sector for these activities, and how broad concepts can be implemented to have an overarching positive impact on chemicals management at the consumer level.
- To identify priorities for education and awareness raising activities.



Summary of Activities and Accomplishments

- CAIA remains one of the few stakeholders involved in the subcommittee's activities. The subcommittee has since been disbanded, with only those members of the MCCM that contribute taking part in specific discussions.
- CAIA developed an objective prioritisation methodology following ongoing debates within the subcommittee, but it was never taken forward due to disagreement on its implementation.
- CAIA resubmitted a list of priorities the work group felt were most important based on available information (e.g., Poison Centre data).
- A priority list of substances for activities to be focused on was ultimately developed and agreed to by the MCCM. The list aligned well to CAIA's original proposals developed by the work group.
- CAIA marketing was developed for all CAIA members to consider how they can participate in the priority education and awareness raising activities.



Work Groups continued

Climate Change Work Group



Main objectives

- To provide a dedicated platform for CAIA members to contribute to policy and legislation development in the climate change space.
- To obtain members' critical insights regarding the challenges that exist to mitigate direct and indirect greenhouse gas emissions.
- To identify opportunities in the green economy to realise increased sustainability.
- To provide opportunity for members to engage with policy makers and researchers in the quest to find rational mechanisms to reduce greenhouse gas emissions.
- To discuss and formulate industry positions on climate change-related matters for engagement with Government.
- To discuss the wide variety of policy in the climate change space.
- To enhance capacity within member companies to internalise the strategic importance of climate change, in order to proactively prepare for the potential varied impacts of climate change and related policy and legislation, on the company and its operations.



Summary of Activities and Accomplishments

- CAIA keeps members up to date with developments, information, upcoming meetings, and events by email, and holds work group meetings when discussion of matters is required.
- The work group met to deliberate on:
 - » The Climate Change Bill that was tabled in Parliament - resulting in a submission being made to the National Assembly's Portfolio Committee on Environment, Forestry and Fisheries.
 - » The Mitigation Potential Analysis Study update.
 - » The allocation of Carbon Budgets.
 - » Sector-specific product benchmarking.
 - » Reports on updates from the Presidential Climate Commission (PCC).
- » Aspects of work being undertaken on the Just Transition including that of the BUSA Just Transition Work Group, the National Business Initiative's Just Transition Pathways study; and the PCC's Just Transition Framework and the Just Energy Transition.
- » Developments in the green finance arena.
- » Reporting in the environment, social and governance space such as that recommended by the JSE.

Work Groups continued

Hazardous Substances Act Group Listing Notices Work Group



Main objectives

- The publication of further draft replacement Group Listing Notices that are provided for under the Department of Health's (DoH) Hazardous Substances Act for compliance with the grouped Hazardous Substances Regulations, prompted the establishment of this work group.
- To consider the proposed alignment of the declaration of hazardous substances to categories of the GHS.
- To consider the Hazardous Substances Act and grouped Hazardous Substances Regulations in terms of their appropriateness to govern the substances proposed to be declared, given previous proposals to the department.
- To determine potential socio-economic impacts on the chemical sector, some of which had been identified by CAIA.



Summary of Activities and Accomplishments

- Identification of potential challenges with the proposed Group Listing Notices, such as the enormous scope, administrative burdens, subjectivity of decision-making and broad scope of the proposed alignment, while being supportive of the further implementation of the GHS.
- Development of a submission for the DoH's consideration that ultimately called for the reconsideration of the proposed alignment to the GHS following receipt of a basis for the proposals and calling for the revision of the primary legislation relevant to the Group Listing Notices.



Work Groups continued

Mercury Minamata Work Group



Main objectives

- To consider matters related to mercury, such as the development of the Level I and Level II Inventories for South Africa along with the National Implementation Plan.
- To consider the implementation of the plan through the development of regulations to domesticate aspects of the Minamata Convention on Mercury, to which South Africa is a party.



Summary of Activities and Accomplishments

- Over the years, CAIA contributed to the inventories that were developed through engagement and negotiation with the DFFE.
- Agreement was reached that emissions of mercury (for example to air and as waste) would not be dealt with by the Chemicals Management Directorate as they would be covered through waste legislation (already covered as mercury-containing waste is considered hazardous waste) and air quality-related policy and ultimately regulation.
- The work group was provided with pre-Gazette draft regulations intended to domesticate the convention domestically and with further opportunity to provide input.
- CAIA submitted substantive inputs to the DFFE on the draft regulations, for consideration and further discussion.

Methanol Work Group



Main objectives

- The work group was established a number of years ago to discuss stakeholders' concerns with methanol being added to products that are accessible to the general consumer.
- Several discussions were held, and it was agreed that bulk suppliers of methanol would consider their positions.
- The work group was revived to share and discuss the position of a bulk supplier of methanol.



Summary of Activities and Accomplishments

- It was shared at the work group meeting that the company's position was to phase-out methanol in consumer products and engagements had been held with customers in this regard.
- Since the intention to broaden the scope of the DoH's Group Listing Notices has been released, the way that methanol is regulated in the consumer market may require further consideration.

Work Groups continued

National Environmental Management Act: Section 30 Work Group



Main objectives

- To identify challenges with the implementation of Section 30 of the National Environmental Management Act, as per its updated Guideline.
- To discuss the Guideline to Section 30 that was updated following a consultation process, both internally with members and with the department.



Summary of Activities and Accomplishments

- Engagements with the DFFE continued on the Guideline to Section 30 of the Act, its associated thresholds for reporting and proposed ways the thresholds could apply according to the exposure medium.
- Clarity was obtained on the interpretation of the reporting requirements. It was generally felt by the work group that the thresholds were too low, but the department wanted to be able to capture as many incidents as possible to be able to direct activities to where they are needed.
- It was stressed that:
 - » reporting of an incident does not automatically equate to a non-compliance.
 - » although the Guideline is not mandatory, implementation is recommended for consistent application.
 - » further technical considerations should be brought to the DFFE's attention for consideration, as well as where the Guideline and/or legislation could be improved.
 - » reporting should be where there are incidents as defined, and where there is or may be significant harm.
 - » the reporting of incidents relating to non-hazardous substances remains according to Section 28 of the Act (Duty of Care).
- It was agreed that CAIA and the department would engage bilaterally on specific areas of concern going forward.

Prior Informed Consent Regulations Work Group



Main objectives

- CAIA drove and contributed to the development of the regulations to domesticate the Rotterdam Convention, through written inputs and bilateral engagements.
- To contribute to the development and implementation of the regulations.
- To constructively deal with implementation challenges identified by industry.



Summary of Activities and Accomplishments

- CAIA provided extensive input on the regulations during their development, both before and during formal public consultation, through considerations of the work group and a workshop held by the DFFE.
- Implementation challenges were identified once the regulations were promulgated. Through CAIA's engagement, the regulations were suspended by the DFFE for review.
- The work group's considerations have resulted in substantive changes to the proposed replacement regulations, in a number of principled and technical areas.
- Further engagements are to take place between the department and CAIA, and thereafter with the work group, to drive the finalisation of rational, implementable regulations that effectively domesticate the Rotterdam Convention's requirements of the Prior Informed Consent Procedure being undertaken on listed substances before international trade takes place.

Work Groups continued

Waste Classification and Management Regulations, and Norms and Standards Work Group



Main objectives

- CAIA drove the review of the regulations as well as norms and standards following the consideration of concerns raised by members. CAIA facilitated an engagement between the DFFE and members to motivate for the review that was subsequently opened.
- The work group was then established to contribute to the review and development of rational legislation intended to result in appropriate waste classification for the purpose of further treatment, other management, or disposal to landfill.
- To provide the opportunity for further participation in the review, by non-waste manager members.
- To contribute to the DFFE's outcomes of the extensive industry-led reviews and to develop further input that could result in a more rational regulatory environment where the need was identified.



Summary of Activities and Accomplishments

- CAIA attended a large proportion of the task team meetings to contribute to the further development of policy and the review of the relevant regulations and norms and standards.
- Once a proposed outcome was achieved, it was shared with the work group for further inputs.
- CAIA subsequently provided members with a further opportunity to make input into the process and submitted final comments to the DFFE.
- CAIA awaits proposals on the way forward from the DFFE to share for consideration. Should proposed changes be published for public comment, all CAIA members will be notified.
- The DFFE has indicated that a comprehensive review of the effectiveness of the implementation of all waste-related legislation is to be undertaken in due course.

Waste Definition Work Group



Main objectives

- To contemplate the definition of "waste" assented to by the President through the National Environmental Management Laws Amendment Act.
- To identify challenges with the interpretation of the definition of waste and raise the need for it to ultimately be simple and unambiguous, as well as to facilitate the beneficiation of waste using a rational, risk-based approach.
- To engage with the DFFE on the intention of the definition and the way forward.
- To provide a platform for all members who are a part of other waste-related CAIA work groups to contribute to CAIA's advocacy initiative on the definition of "waste" (Small-scale Waste Work Group and Waste Classification and Management Regulations, and Norms and Standards Work Group).



Summary of Activities and Accomplishments

- Prior to the establishment of the work group, CAIA engaged with members, BUSA and the DFFE on the definition of waste, at all stages of the consultation process – from National Government to parliamentary proceedings that included the National Assembly, National Council of Provinces, and Gauteng Legislature.
- The work group was established to focus attention on the definition and the implications with particularly interested members.
- Following bilateral sectoral engagements, including with CAIA and its work group, the matter is to be addressed through BUSA due to the challenges being common across all sectors of the economy, and CAIA in parallel.
- The work group will be consulted where the need arises, for their inputs and support.

Events

Key Performance Indicators (KPI) Annual Workshop

Date: **23 February 2022**
 Venue: **Virtual**
 Attendance: **66 persons**



Objectives

To provide complementary training and support to new signatories regarding the online CAIA KPI System, summarise the data requirements and administrative steps to finalise a submission, update signatories on changes made to the system since the previous year, and provide an opportunity for queries to be raised both at the workshop and during the submission season.



Target Audience

Responsible Care[®] signatories – whether newly signed without KPI submission requirements, those submitting data for the first time, as well as signatories that have already been submitting data on an annual basis.

Outcome

CAIA attributes the increased attendance not only to the online nature of the workshop (as it has been offered in this format before), but also due to the method of communication. A direct calendar entry was distributed to all Responsible Care[®] Management Representative (RCMRs), rather than a standard email communication requesting interest in attendance of the workshop.

Implementing SQAS-AFRICA Management System Training Course

Date: **8 March 2022**
 Venue: **Virtual**
 Attendance: **23 persons**



Objectives

To provide delegates with skills to develop, implement and maintain the SQAS-AFRICA Management System at the workplace.



Target Audience

- Potential SQAS-AFRICA auditors.
- SQAS-AFRICA internal auditors.
- Chemical company logistics managers.
- Transport managers.
- Transport safety managers.
- SHE and security managers, coordinators, and practitioners.
- Emergency responders.
- Legal compliance managers.
- Transport consultants.
- Transport logistics academics and students.
- RCMRs.
- Environmental underwriters/insurers.

Events continued

SQAS-AFRICA Auditor Training

Date: **14 – 15 March 2022**
 Venue: **Virtual**
 Attendance: **5 persons**

**Objectives**

- **To enable delegates to:**
 - » **Conduct SQAS-AFRICA audits consistently.**
 - » **Uphold high quality audit standards.**
 - » **Prepare audit reports that will provide value to auditees.**
 - » **Achieve uniform interpretation of the audit questionnaires and associated guidelines with other SQAS-AFRICA auditors.**

**Target Audience**

- Potential SQAS-AFRICA auditors.
- SQAS-AFRICA internal auditors.
- Chemical company logistics managers.
- Transport managers.
- Transport safety managers.
- SHE and security managers, coordinators, and practitioners.
- Emergency responder.
- Legal compliance managers.
- Transport consultants.
- Transport logistics academics and students.
- RCMRs.
- Environmental underwriters/insurers.

Managing Hazardous Substances Training Course

Date: **16 March 2022**
 Venue: **Virtual**
 Attendance: **29 persons**

**Objectives**

To equip participants with knowledge on the handling and the transportation of dangerous goods.

**Target Audience**

- LSPs.
- Manufacturers.

Events continued

Emergency Preparedness and Response Training Course

Date: **17 March 2022**
 Venue: **Virtual**
 Attendance: **67 persons**

**Objectives**

To equip participants with knowledge required to manage emergency situations.

**Target Audience**

- All members along the chemical value chain.

Globally Harmonized System of Classification and Labelling of Chemicals Training Course

Date: **24 – 25 May 2022**
 Venue: **Virtual**
 Attendance: **23 persons**

**Objectives**

To equip participants with knowledge on how to classify and label chemicals according to the UN GHS.

**Target Audience**

- All members along the chemical value chain.



Events continued

RCMS Auditor Training Course

Date: **6 – 7 June 2022**
 Venue: **Virtual**
 Attendance: **5 persons**



Objectives

- To equip auditors with knowledge of the Responsible Care® Initiative, its principles, and practices.
- Train participants on CAIA Responsible Care® high level documents (Guiding Principles, CMP and AGD).
- To ensure a uniform high quality of auditors.
- To ensure a uniform interpretation of the AGD and associated guidelines by all auditors, irrespective of their background.



Target Audience

- RCMS trainee auditors.

Storage, Handling and Transportation of Ammonium Nitrate Webinar

Date: **5 September 2022**
 Venue: **Virtual**
 Attendance: **127 persons**



Objectives

To address the effective risk management of the storage, handling, and transportation of ammonium nitrate and ammonium nitrate-based fertilisers.



Target Audience

- PSM professionals.
- Policy/decision-makers (i.e., competent authorities).
- OHS practitioners.
- Emergency preparedness and response personnel.
- Transport and port authorities.
- Academia.
- Representatives from relevant industry associations.

Events continued

Responsible Care[®] Advanced Risk-based Process Safety Management Training Module 1

Date: **22 March 2022**
 Venue: **Virtual**
 Attendance: **6 persons**

Date: **6 September 2022**
 Venue: **Virtual**
 Attendance: **20 persons**



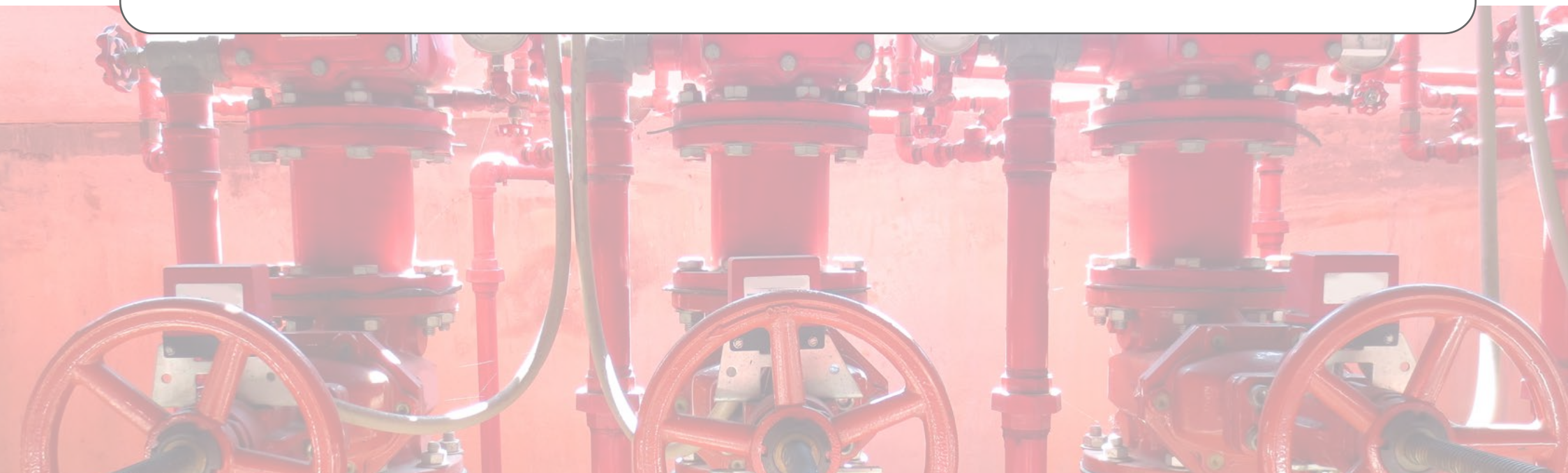
Objectives

- To introduce what Risk-based PSM (RBPSM) is, its history, and the benefits to the chemical industry.
- To explain the benefits of the safe operation and management of plant and equipment.
- To explain the elements of an RBPSM System.
- To understand the requirements of implementing an RBPSM System.
- To identify what could be done to address high potential, low probability incidents.



Target Audience

- Process safety personnel.
- Operators, supervisors, and plant managers.
- Engineers, Safety, Health, Environment and Quality (SHEQ) personnel and representatives



Communication

Communication is one of the eight fundamental features of Responsible Care®.

National associations are required to ensure that:

- Interested-party input processes are reviewed and updated as appropriate.
- The implementation of local processes proceeding to targets is accomplished.
- Regular feedback from interested parties is obtained and that issues are addressed.
- Government reaction is monitored and addressed.
- Media contact is maintained.
- Responsible Care® communications are part of company communications strategy.
- Internal and external feedback or surveys of Responsible Care® awareness are being obtained by most companies or by the association.

To ensure effective communication, CAIA's approach is to work in conjunction with representatives from individual organisations and other stakeholders in its database. CAIA takes the lead in the promotion and communication in relation to the implementation of Responsible Care® in South Africa. This includes promoting the purpose, aims, benefits and practical aspects of Responsible Care®.

CAIA maintains a website with information on Responsible Care® and SQAS-AFRICA, including advocacy initiatives

A Responsible Care® Performance Report is published annually and outreach is also achieved through the traditional print media as well as via social media.

Shared Information in Numbers

The number of advocacy alerts, e-mail blasts, posters, and trade bulletins distributed by CAIA during the reporting period were:



Advocacy Alerts

50



E-mail blasts

34



Posters

34



Trade bulletins

50

Further information is available at:



<https://www.caia.co.za/>



<https://www.facebook.com/CAIA-1692378014411331>



https://twitter.com/caia_za



<https://www.linkedin.com/company/CAIA/>

Focus on Members: Projects

AECI Mining Explosives, a division of AECI Mining Ltd:

Initiative: Purified Sewage Effluent Recycling

Purified sewage effluent (PSE) is pumped from the Northern Wastewater Treatment Works (WWTW) at Diepsloot to Kelvin Power Station. Kelvin Power operates and maintains the PSE supply line from the Northern WWTW. An agreement with Kelvin Power was reached for the supply of PSE.

PSE is supplied directly to the production processes, where existing pipelines and new sections of piping, electrical and control systems were commissioned. PSE water is not continuously available, thus careful control on PSE versus Rand Water Board (RWB) supply is needed, ensuring that the lower cost PSE is preferentially supplied when available. Supply is metered continuously.

The quality of the PSE is suitable for industrial use but is not of potable quality. The PSE contains microbes such as bacteria, not found in drinking water, but typical of treated wastewater. These lead to specific

challenges which have required new methods and procedures of treatment.

An initial investment implementation came with the following benefits, which continue to be realised since inception in 2017:

- Reduced consumption of potable water – sustainability, by reusing effluent streams.
- Cost reduction – more PSE consumed at a lower unit price gives savings on production costs.
- Having various sources of feed water available, gives higher assurance of online time (uptime).



AECI Mining Explosives, a division of AECI Mining Ltd:

Initiative: Reverse Osmosis Plant

The purpose of the initiative was to look at various water sources that could be treated for re-use, to reduce potable water intake. Available water sources included purified sewage effluent, low-grade water, cooling tower blow down water, cooling tower backwash water as well as some low-grade effluent.

A new Reverse Osmosis (RO) plant was built to treat these water sources and produce product water at a better quality than potable water that is used in various processes, including cooling tower make up, boiler feed and demineralised plant feed water. Normally these processes only used potable water. With this initiative, the product water is used, with potable water only as backup. The plant was designed to have a maximum product water production of 60 m³/h to meet the water demand for the above-mentioned processes.

The idea was born out of the company's project purpose drive, which aims to reduce the water and wastewater footprint. The initiative was driven using internal resources only and was a collaborative effort between the two sister companies AECI Water and AECI Mining. The total plant CAPEX amounted to approximately R30 million. Internal engineering resources were used for the design and construction of the plant as well as continual support for plant operations and maintenance.

Currently, the average product water produced from the plant is closer to 30 m³/h as a result of the shortage of the alternative water sources, especially purified sewage effluent. However, there are ongoing initiatives to resolve this supply issue to ensure that the design production of 60 m³/h can be achieved. Going forward, the potable water savings at AECI Mining will continue to decrease until full plant production is achieved.

Benefits include a reduction in potable water consumed, as well as financial savings since the RO plant produced water at a lower cost. Longer term impacts as part of Phase 2 of this project include the drive for AECI Mining to become completely water independent from the potable water grid.



Focus on Members: Projects continued

AECI Specialty Chemicals, a division of AECI Ltd:**Initiative: Rework of Crude Tall Oil Rosin Sludge**

The rosin component within Crude Tall Oil (CTO) dissociates and settles at the bottom of tanks during storage. In addition, the natural settling is promoted by the unavoidable and necessary continuous topping up of bulk tanks.

In the preceding years, should a tank require cleaning, the settled rosin referred to as CTO sludge was manually dug out and shovelled into skips. This dry concentration of hard chalk-like sludge was considered a waste and disposed of. Last year, 164 tonnes of CTO sludge was removed from bulk tanks, transferred into a reactor or sump and mixed with hot acid oil to form a homogenous slurry. Subsequently, the CTO sludge was added into saleable products. Manufacture followed stringent quality control validation analysis to verify that the final product was within product specification limits.

This reclamation was applied to two separate tanks, one located at the Island View precinct and the other at Jacobs operations. Removal of material out of tanks not only involved spading out but also introducing hot vegetable acid oil onto the

settlement to “shear” off layers of CTO sludge with prolonged circulation. Much of the CTO sludge was manually pumped out with a separately connected diaphragm pump. This effort involved hiring of external labour, extended supervisory presence and daily focused engagements on progress. Material removed from the tanks was placed into open top drums and mini skips before being transferred into a reactor or sump.

This initiative opened an opportunity to create temporary contract labour employment. From a financial perspective, 164 tonnes of CTO sludge had been recovered at raw material price amounting to R3.12 million (R19/kg) as it was able to be consumed in saleable products. Previously tons of CTO sludge were written off due to the complexity, effort and time required in recovering this material for further use. In addition, disposal cost and impact on the environment would have resulted.



The drums in which CTO had been stored



The stubborn chalk like sludge that was within the tank prior to reclamation

Archwood Protection SA (Pty) Ltd:**Initiative: Recycling of Wash Water**

The company's waste management plan outlines that the company should strive to reduce waste on a year-on-year basis. If the arsenic acid drums (raw material drums) are not reused, then they are to be disposed via waste management services.

Disposal of these would be classified as hazardous waste, thereby costing the company more than it is already spending on removal of the plant's hazardous waste.

After washing raw materials, the wash water used is collected into plastic storage tanks and thereafter re-used as process water in the manufacturing of Chromated Copper Arsenate (CCA). This recycled water has amounted to 889 kilolitres over the past year, which replaced potable water in the manufacturing process, leading to water conservation. In this way, Archwood Protection SA is playing a part by striving towards a more responsible, greener, and healthier environment by ensuring that water resources are conserved.



Focus on Members: Projects continued

Archwood Protection SA (Pty) Ltd:

Initiative: **Repairs and Renovation to the Facility Building at the Vulingqondo Crèche – Port Shepstone**

The Vulingqondo community crèche which is situated in the Bethania rural community on the outskirts of Port Shepstone in Ugu district municipality serves as a beacon of hope to young children growing up in the community. Archwood Protection SA has been sponsoring the crèche over many years and has an ongoing relationship which began in 2006.

Staff had taken time off to host a graduation ceremony for those learners who succeeded in moving into their primary education phase. Over the last two years, the crèche has experienced financial difficulties due to reduced sponsorships and compounded even more by the COVID-19 pandemic.

In 2021, Archwood Protection SA took the initiative to purchase food hampers which were distributed through the help of the crèche. The food hampers helped many needy families get through the challenging time and gave the families the comfort of knowing they had some assistance and assurance of feeding their children. Many of the families in this community are currently unemployed and some children attend the crèche without being given any food. It then becomes the crèche's duty to provide food for these children.



From humble beginnings to an organised and flourishing education facility, the Vulingqondo Crèche, has celebrated a record number of 'young graduates' each year. Therefore, in November 2021, in addition to existing initiatives, management of Archwood Protection SA decided to renovate and repair the buildings which the children currently occupy. This included repairing the roof, painting the facility, replacement

of broken windowpanes, installing new bathroom sinks and re-building the walls. Seeing the joy on the children's faces and their sense of pride and achievement, makes this project a privilege. Through this project, the company has been able to give back to the community by improving the crèche facility building and thereby making it possible for the number of learners to continue to grow in a good environment.

Archwood Protection SA (Pty) Ltd:

Initiative: **Waste Minimisation – The Re-use of Raw Material Packaging**

Archwood Protection SA investigated an opportunity to re-use raw material packaging, previously classified as waste, as product packaging into the export market.

This process involved washing the contaminated packaging in a wash area. All wash water was collected and re-used in the Chromated Copper Arsenate manufacturing process. This project enabled the organisation to become more competitive on pricing into the export market. This also led to a reduction in waste disposal costs as in previous years, the used packaging was disposed via waste management vendors to hazardous material landfills. The used packaging undergoes a stringent quality control process in order to avoid any environmental contamination resulting from spillages.



Focus on Members: Projects continued

BME, a Division of Omnia Group (Pty) Ltd:Initiative: **AXXIS Titanium™ System**

Electronic blast detonation system which supports mining sustainability and safety and promotes local employment and skills enhancement. Safe and more sustainable blasting has taken a momentous step forward with Omnia Group company BME's launch of AXXIS Titanium™, one of the world's most advanced electronic blast detonation systems.

AXXIS Titanium™ is a significant advance for the company's ever-evolving technology offering, securing BME's position among the global leaders in electronic delay detonator (EDD) design. This flagship product reflects the company's continued focus on sustainability and digital advancement on mines and is designed to seamlessly integrate with BME's software systems and hand-held digital tools.

AXXIS Titanium™ improves safety levels and manufacturing quality through enhanced communication with the detonator during manufacturing to avoid defects.

Performance is raised through the increased blast duration per detonator, more units per blasting box and precise firing accuracy. The AXXIS Titanium™ system was built for the blaster and blast engineers who work with the product every day, and the robustness of the wire, the easy-to-use interface and the improved integration will improve efficiency in terms of time, data, and reporting.

Safety remains the watchword, with the incorporation of a Swiss-designed application-specific integrated circuit (ASIC)

chip in the BME detonators, delivering several added benefits. The ASIC gives the system more internal safety gates against stray current and lightning, enhancing safety levels and allowing for inherently safe logging and testing.

By developing this system and innovation, we have embraced complex environmental, social and governance (ESG) challenges. This has laid the groundwork for a more constructive relationship with customers, suppliers, host governments and communities.

**BME, a Division of Omnia Group (Pty) Ltd:**Initiative: **Expanding Used Oil Recycling Globally**

Based on the success and circularity of BME's used oil recycling initiative - this capability is no longer limited to South Africa but has been applied to mining customers as far afield as West Africa and Indonesia. The company can now collect all the used motor oil from mines' vehicles on a regular basis, providing a safe and environmentally sound service that is very convenient for the customer.

The responsible disposal of the oil in BME's emulsion adds another dimension to the company's partnership with mining customers – supporting their sustainability efforts while reducing their logistical load and environmental risk.

The environmental, social and governance (ESG) benefits extend further than this, as small businesses are among the most important contributors to the success of the used oil collection network. The initiative therefore creates long-term business opportunities in the local economy, stimulating entrepreneurial activity and generating jobs.

The company's infrastructure relies on small and micro-businesses to collect oil in a compliant manner from a range of sectors outside mining such as vehicle maintenance workshops. This has led to a bulking point network that already provides employment for over 120 people in South Africa.

BME is now expanding this initiative into neighbouring countries where it can draw on small – even informal – businesses to collect used oil, thus creating demand in the



local economy. The company's regular and growing demand for used oil provides a solid platform for these small businesses to develop their expertise and standards, so they can fulfil this demand into the future.

The used oil methodology employed in Indonesia is applied on a remote mining site, where BME manufactures emulsion for its customer. Despite the remote location, the manufacturing process can achieve loading levels – of used oil relative to virgin fuels – like those in South African operations.

The company is also taking this technology into its other operations around the globe. Wherever there are sufficient sources of used oil, the company can put the equipment and processes in place to support the principles of a more circular economy.

Focus on Members: Projects continued

Dow Southern Africa (Pty) Ltd:

Initiative: **Empowering Oliver's Village with Sustainable Agriculture**

Through a shared passion for innovation and chemistry and a belief in making a sustainable impact for their communities, global chemical companies Dow Southern Africa (Pty) Ltd (Dow) and AECl Limited (AECl) have partnered to empower Oliver's Village with sustainable agriculture.

Oliver's Village is a non-governmental organisation outside Benoni that provides a variety of social services to the most under-resourced people of Daveyton. They support more than 600 people daily with services including, an Early Childhood Development Centre, computer training for the youth, food, and enterprise development, among others.

Through the company's Business Impact Fund, Dow is investing R1.5 million (US\$100 000) and AECl R1.4 million (US\$92 000), towards Oliver's Village, which will be used to expand their Social Enterprise Development and Emerging Farmer Training Programme. This programme will train young people on planting and growing their own food and subsequently generating profit from sales.

The Dow Business Impact Fund is a competitive grant programme that designates corporate contributions towards projects that are designed to help address social problems through the company's technology and expertise. The fund emphasises collaboration with external partners like AECl and Oliver's



Village. Proposals for funding come directly from Dow employees around the world, tapping into their unique skills, business knowledge and diversity of locations and experiences.

At Dow, the company's ambition is to become the most innovative, customer centric, inclusive, and sustainable materials science company, with a purpose to deliver a sustainable future through its materials science expertise and collaboration with its partners. This collaboration with AECl is part of living the company's purpose.

ImproChem (Pty) Ltd t/a AECl Water:

Initiative: **RCL Boiler Feed Water Plant**

The initiative was developed out of one of our customer site requirements to save on potable water usage. Various alternative water sources were available on site, and one such source of water was from an existing borehole.

This source is located close to the boiler house; however, the water quality was not suited for use as boiler feed water.

AECl Water assisted with water quality testing as well as providing the required treatment technology to treat the borehole water so that it can be used as boiler feed water. A new plant was built making use of reverse osmosis technology to provide boiler feed water quality. Normally the boiler was fed with softened potable water. At this stage, the boiler is receiving water from the new reverse osmosis plant at a rate of 11 m³/h with potable water being used as backup. The permeate produced from the new plant is of a much better quality than the softened potable water supply, meaning that higher boiler efficiencies can be achieved.

The total plant CAPEX amounted to approximately R5.2 million, and currently AECl Water is also involved in the supply of services to operate the plant.

The benefits realised due to implementation of this project include:

1. Potable water savings at a rate of 11 m³/h.
2. Security of water supply to the boiler plant.
3. Reduction of water consumption from the Rand Water Board.
4. Reduced risk of boiler scaling due to better feed water quality and improved boiler efficiency.

The boiler can be run at higher cycles of concentration therefore reducing the boiler blow down water wastes, reduced coal usage and lower air emissions reducing the plant carbon footprint and greenhouse gas emissions.



Focus on Members: Projects continued

Interwaste (Pty) Ltd:**Initiative: Logistics Optimisation Journey – Driving Excellence**

Interwaste's purpose is to serve land and life through providing safe, compliant, innovative, and effective waste management solutions that are economically viable, socially conscious, and environmentally safe. The protection of biodiversity sits at the heart of the company's business and its Zero Harm philosophy is driving behavioural change across the company.

Overview Interwaste Logistics Optimisation – Driving Excellence

In line with the Responsible Care®'s objectives to continuously improve all aspects of health, safety, and environmental performance and to share progress on activities, Interwaste's Logistics team undertook to enhance safety, service and skills whilst reducing risks, costs, and environmental impacts.

The South African waste industry is dynamic and constantly evolving due to legislative and market changes. To maintain and increase sustainable services to its clients, Interwaste's Logistics Division implemented initiatives across all areas of operations to build a stronger base for the future.

Through implementing standard operating procedures and various technology applications and combining these with enhanced employee engagement and training interventions, the logistics team is starting to reap the results of their hard work.

Case study

The case study covers the challenges faced by the Interwaste team, the analysis and solutions applied to address these challenges, the results to date and some of the company's learnings and future plans.

Challenges

Interwaste's Logistics Division utilised manual, paper based processes to manage its operations, posing numerous challenges such as lack of operational visibility, unstructured and non-standardised approaches to planning and routing vehicles, manual and human dependency for data capturing resulting in slow and inaccurate reporting, data integrity issues and business continuity risks, the inability to automate various processes and enable the use of new technologies, reactive decision making, and undynamic operations.

In addition to this, the complexity of optimising a fleet of vehicles to meet the large variety of waste streams, waste receptacles, varying destinations and unique requirements of clients resulted in fluctuating service levels and operational efficiencies.

Solutions

- Renewed strategy and organisation structure to deliver on objectives.
- Development and roll out of standard operating procedures across all depots.
- Implementation of various technology applications.
- Integrated data into a Logistics Operations Management Platform.
- Increased engagement with employees through toolbox talks, training interventions and appointment of accredited, dedicated driver trainers.
- The use of Euro3 rated vehicles supported by a preventative maintenance programme.
- Inhouse workshop which services the majority of the Interwaste fleet includes a maintenance pit for vehicle quality checks, brake testing system and emission testing before a vehicle is approved to return to operations.

Benefits/Results

- Significant reduction in risks and enhanced safety.
- More skilled, empowered and engaged employees.



- Increased and more reliable service delivery.
- Accurate, real-time reporting and actionable business intelligence.
- Increased operational efficiencies and visibility through digitisation and process automation.
- Enhanced and proactive decision making (ability to do scenario planning).

The Way Forward

- Contribution to the Group's ESG and Greenhouse Gas (GHG) emission reduction goals.
- Roll out of a bespoke driver engagement campaign called Road Stars.

The team has created a strong base to drive excellence and continue to deliver economically viable, socially conscious, and environmentally sustainable solutions.

Focus on Members: Projects continued

Labchem (Pty) Ltd:**Initiative: Rainwater Collection for Water Purification and Emergency Safety Supply**

Labchem commenced producing purified water for laboratory use a few years ago. Municipal water was used but this contains treatment chemicals. If the company could harness and use rainwater, it should improve the life of the various filters that are used in the system and directly save money.



Furthermore, it would also cut down on the use of the treatment chemicals in municipal water and the need to transport the municipal water to the company's premises.

Labchem located "dead space" on its premises close enough to the machine to place storage tanks. Since this space was very close to the position of the emergency water tap, shower, and eyewash station at the chemical packing area, the company could replace the existing small storage and pump system with a larger one that would be used more frequently, reducing the need to test that the purported safety system was actually operational.

Six storage tanks with a combined capacity of 16 200 litres, guttering with three downpipes from the roof, sight glasses, piping and a pump were installed. The system allows for collection of roof debris prior to water entering the tanks, as well as a "pre-wash" facility where the first rainwater is released to ground.

Despite having had limited opportunity to use the rainwater collected, the company estimated a saving of a minimum of 32 400 litres before the summer rain season ended in April 2022. Labchem established that even the wastewater generated in the purification process has a significantly lower conductivity than the municipal water and could probably be cycled again through the purification system. Currently, the wastewater is sent to another relatively small tank which is used to flush the toilets in the administration offices. Additional savings and security of operation is the use of the company's solar system to power the water pump.

In due course and depending on Labchem's experiences over a longer period in the rainy season, the company may look to re-use the purification wastewater generated from the rainwater system at least once more if it can find space for a suitable facility and system to store the "first purification waste".

Labchem (Pty) Ltd:**Initiative: Re-Imagined Volumetric Solutions**

After experiencing numerous incidents of damaged glass and plastic ampoules of volumetric solutions with the consequential hazardous liquid leaks, stock shortages and costs associated with clean up and claims, Labchem re-imagined the product.

After looking at packaging options, the company elected to use a bottle with a double cap system which can also be security sealed in the event this is needed. The company designed a carton for ease of shelf storage and to keep the bottle clean and produced an in-house "How to Use" video accessible via a QR code printed on the outside of the carton. A second set of instructions is printed on the inside flap of the carton.

Once satisfied with the product, Labchem trademarked a name "Quantisol" to distinguish the product from traditional ampoules. To set up the product cost about R15 000 in actual expenses and about R8 000 in worker hours.

Additional advantages to this re-imagined volumetric solution are:

1. No special equipment or heat process is needed to seal the solution container.
2. No need to use a sharp blade to open the container.
3. No broken glass to dispose of.
4. The bottle is optionally reusable.
5. The packaging will allow a reasonable shelf life.
6. Full GHS labelling on both carton and bottle.
7. There should no longer be leaks, resulting in a saving on the costs and inconvenience of the spills.
8. There is a strong South African production component.



Focus on Members: Projects continued

Omnia Fertilizer, a Division of Omnia Group (Pty) Ltd:

Initiative: **Potable Water Saving Initiative at the Sasolburg Facility**

Omnia continuously strives to achieve “Zero Harm, Positive Impact” through responsible business practices to create a greener future. Omnia is committed to the United Nations SDGs and has incorporated the SDGs into its sustainability and stakeholder engagement frameworks.

The cooling towers at Omnia’s Sasolburg nitric acid plants consume potable water which is purchased from the local municipality. The cooling towers then discharge water in accordance with the site’s Water Use Licence.

In line with achieving the company’s material SDGs (6, 9 and 12) approximately R13 million was spent on a Reverse Osmosis (RO) Plant to treat the nitric acid cooling towers’ blow down water. This initiative improves Omnia’s resource efficiency, reduces input costs and assists Omnia in achieving its sustainability

targets. The RO Plant was commissioned in August 2022. Annualised savings are achieved by approximately 20% of the cooling tower makeup being replaced with treated water which equates to 180 megalitres saving per annum for the Sasolburg facility.

The project costs included equipment, construction, installation, and commissioning of the plant. The initiative resulted in indirect job creation during the construction and commissioning phases of the project as well as the direct employment of operational staff.

**Protea Chemicals, a Division of the Omnia Group (Pty) Ltd:**

Initiative: **Supports the eduCate Maths and Science Programme #InitWithYou 2022**

Protea Chemicals partnered with Primestars to support the eduCate Maths and Science revision programme for Grade 12 learners in preparation for their final examinations.

The programme is in line with the company’s commitment to give back to the communities it operates in, promoting its commitment to education and the livelihoods of its communities. The initiative is rolled out annually across all nine provinces from July until September and is a significant exam booster for thousands of learners. It provides examination-focused assistance to matric learners from more than 100 schools.

To ensure wider reach, the programme is offered across various channels: on a face-to-face basis where learners attend various cinemas in South Africa to watch tutorials, through social and digital platforms where the learners have free access to a WhatsApp support portal and through digital textbooks and past exam papers.

Through this initiative, Protea Chemicals strives to make a positive impact on society by empowering the youth through education. The programme equips young people with relevant skills that will open pathways to employment, further study, and employability. The technical skills required in Protea Chemicals, and the chemical industry generally, need STEM-related qualifications. The company understands the importance of building its talent pipeline from a grassroots level, as this then feeds into the company’s existing pipeline of the learnerships and internships it already offers. Since its inception in 2010, more than 100 000 matriculants from public schools have benefited from the programme.



Focus on Members: Projects continued

Sasol Chemicals:

Initiative: Supports a reconsideration on the use of Methanol in Non-Industrial Applications.

Methanol, a popular globally traded commodity, is an efficacious solvent with multiple uses and is a versatile chemical derivatisation agent. However, methanol is not widely used in consumer products due to its high toxicity. There is increasing global awareness of this issue resulting in some countries (e.g., Germany, Kenya) promulgating legislative restrictions regarding the use and application thereof in an effort to protect consumers against incidences of potential severe methanol poisoning.

Within the class of non-industrial applications, the use of methanol in paint thinner formulations may be of concern due to the following reasons:

- (a) Methanol dissolves various classes of chemicals. In the context of thinners, methanol increases the co-absorption of other toxic hydrophobic components like toluene and other aromatic compounds into the bloodstream. Methanol can facilitate the transport of these toxins across the various dermal layers to penetrate human skin and to enter the blood circulation networks in the body. Methanol itself can relatively easily be transferred across human skin and can be absorbed via this route in toxic amounts.
- (b) Methanol has a high vapour pressure, allowing for rapid intake via inhalation. Methanol can also be inhaled from mists following spray-painting of thinned base coats and during substrate surface preparations.
- (c) Methanol is highly toxic to humans. Ingestion of small quantities of methanol has the potential to cause

permanent blindness due to its metabolic products having the capacity to attack and destroy the optic nerve.

- (d) Ingestion of relatively small volumes of methanol has the potential to cause death in certain circumstances.

In South Africa methanol is known to be a relatively low-cost ingredient in some paint thinners, fulfilling various technical functions. In some cases, methanol can technically constitute up to 50% of a lacquer thinner formulation. This can give rise to concern in non-industrial applications in instances where limited controls, including legislative restrictions, are implemented to prevent methanol exposure with potential associated negative health consequences. Sasol, as a signatory to Responsible Care® supports the strengthening of chemicals management systems to optimise mitigation of potential negative impacts of chemicals to safety, health, and the environment.

Accordingly, Sasol's Chemicals Business supports the reconsideration of the use of methanol in non-industrial applications in an effort to encourage current paint and



thinners formulators to phase-out methanol use and introduce alternative substitutes. Within advancing the discourse in this regard, Sasol Chemicals engaged with its methanol customers and knowledge sharing sessions with the broader industry through CAIA. In advancing its view, Sasol Chemicals' customers are required to sign a

declaration to confirm that methanol purchased from Sasol will not be used in non-industrial applications.

Sasol Chemicals will continue to work together with the affected industry stakeholders and Government to promote the safe and responsible use of methanol.

Focus on Members: Projects continued

Sasol South Africa Limited:**Initiative: Sasolburg and Ekandustria Operations support to Metsimaholo Local Municipality**

Sasol is a signatory to the UN Global Compact CEO Water Mandate and uses its Water Stewardship framework to respond to water risks. The Mandate advocates action “where required and over time” to respond to water challenges facing organisations against six broad focus areas, namely: direct operations, supply chain and catchment management, collective action, community engagement, public policy, and transparency. One of the primary objectives of the Mandate is to assist organisations to meet the 2030 Sustainable Development Goals (SDG), specifically SDG 6: Sustainable management and access to water and sanitation for all.

One of the current workstreams of the Mandate is for member organisations to focus on Water, Sanitation and Hygiene (WASH) in surrounding communities. The focus of Sasolburg and Ekandustria Operations (SEO) Corporate Social Investment team is to support Metsimaholo Local Municipality (MLM) to drive WASH initiatives. The team committed to assist MLM improve its sewer reticulation system in a three-phased approach as follows:

- **Phase 1:** R2 million was spent on the water and sanitation pump station systems in the greater Sasolburg area.
- **Phase 2:** More than R3 million was spent on critical mechanical and electrical work at Gortin and Chris Hani pump stations. There was also civil work conducted at 11 MLM pump stations.
- **Phase 3:** R6.2 million was spent on critical remedial upgrades and capacity building of MLM sanitation network inclusive of the electric monitoring of major sewer pump stations in Baddrif, Welgelegen, Leeuwspuit, Leitrim, Gortin 4 and Amelia.

The investment in improving WASH services in MLM was a contributor to SEO receiving the “Best Performing Private Sector” award at the Green Drop Certification Awards Ceremony, hosted by the Department of Water and Sanitation, with a score of 96%.

The Green Drop Certification Programme is an Incentive-based Regulation (IBR) pioneered by the South African Water Sector since 2008 to serve as a stimulus for change, and a catalyst to establish motivation and leadership in the water sector regarding the management of wastewater services. It was a programme designed to take a holistic view of the management of wastewater treatment works from where the water enters the system to the discharge qualities achieved, as well as the waste managed. SEO is therefore proud to have achieved Green Drop Certification and has proactively set an internal target to maintain their Green Drop Certification going forward.



Focus on Members: Projects continued

Sasol South Africa Limited:**Initiative: Supporting Inkwazi Isu to Upgrade Durban Solid Waste Garden Sites**

The rapid global plastic production, combined with poor disposal practices and a shortage of suitable waste management and recycling solutions, has resulted in a global plastics litter concern. Sasol, as a responsible producer of polymers, supports the view that plastic waste in the environment is unacceptable and that producers and other parties, from converters to brand owners, retailers, consumers, and governments, in the value chain all have a role to play in providing solutions to the environmental concern.

With this in mind since 2019, Sasol has been working with various stakeholders in the South Coast basin to address plastics sustainability.

The Umbogintwini and Amanzimtoti rivers are the two main rivers that flow directly into the Indian Ocean south of the city of Durban. Both rivers are critical to the local economy and tourism industry. Inadequate waste management from settlements located nearby these rivers results in pollution being carried downstream, introducing waste to beaches and into the Indian Ocean. Although the waste is generic, plastic waste has become one of the more visible challenges in the area.

Sasol, one of the founding members of the KZN Marine South Coast Waste Network established in May 2019, commissioned a baseline assessment with the intent to understand the issues. The baseline study was an important element that has set a solid foundation for the development of an integrated waste management programme including the formalisation of the project. The KZN Marine South Coast Waste Network has named the project, Inkwazi Isu (African Fish Eagle) and was officially launched by the DFFE Minister Barbara Creecy in September 2019.

The current Inkwazi Isu project partners are Sasol, Plastics SA, Polyco, Petco, Coca Cola, Sustainable Seas Trust, Alliance to End Plastic Waste (AEPW), SA Initiative to End Plastic Waste, eThekweni Municipality, Durban Solid Waste (DSW) and the South African Health Foundation (SAHF). The project partners have put together a comprehensive and consolidated plan to address the challenges and concerns through measures such as improved recycling infrastructure, collection services, education, and cleanup campaigns in addressing the overwhelming problems caused by poor waste management practices.

As part of Inkwazi Isu, Sasol recognised the potential in optimising the DSW

municipal garden sites which play a critical infrastructure role within the identified project region, including the necessary upgrade to buy-back centres. Hence Sasol has directly funded R3.6 million to the first two sites, which was handed over to DSW on 17 September 2022 (World Clean Up Day). In addition, and as part of the larger initiative, Sasol has assisted with AEPW support of \$1.5 million to upgrade an additional 10 DSW municipal garden sites into buy back centres. The total expected project impact of the 12 sites once in operation are:

- Collecting and sorting approximately 20 kilotonnes of plastic waste.
- Other recyclables (e.g., glass, metal, paper) will also be collected.

- The project aims to remove and collect recyclables from approximately 260 illegal dumps identified during the baseline studies. This will include river clean ups as well.
- Training approximately 200 waste reclaimers.
- Create market value for the 'hard to recycle' plastics and this will in turn enable various technology applications to convert these plastics into valuable end products.

The above will also enable Phase II of the programme which aims to close the loop and provide solutions towards circularity and sustainability of the materials e.g., SABS approved plastic blocks, Chemical recycling plant etc.



Focus on Members: Projects continued

Tanker Services Food and Chemicals – a division of Imperial Logistics South Africa Group (Pty) Ltd (Germiston):**Initiative: Effluent Plant Completes Successful Transition to Microbiological Dosing Agents**

Access to water is a human right. As a user of potable water, and in some operations, creating effluents that are discharged to sewers, Imperial Logistics acknowledges its duty to use water efficiently so that the demand of other users within the supply chain and society generally, can be met. Linked with climate change, Africa is experiencing increasing incidents of prolonged droughts and in some parts of the continent, poor water infrastructure further exacerbates water shortages.

Water is essential to the company's operations, particularly in its specialised bulk transport fleet at Tanker Services Food and Chemicals, which has significant water-using facilities. The company's primary use of potable water is to clean the fleet, especially tankers which require several washes to meet strict product safety protocols required by clients in the food, beverage, and chemical sectors.

Water and effluent treatment are core competencies in the company's business, enabling it to meet the exacting, uncompromising standards that ensure clients can trust their products are never contaminated during transportation, while having peace of mind that effluents are treated to safe levels.

In April 2021, the company partnered with a specialist vendor to implement a biological treatment process in the effluent plant of a wash bay at the Tanker Services Food and Chemicals site in Germiston. To test the solution, a 12-week trial was undertaken where two new dosing agents were applied to the plant and all other chemical agents removed. A microbe blend breaks down oily compounds and a liquid probiotic and bacterial concentrate is used in the grease traps, drain, and drain line maintenance to improve septic and waste degradation, cleaning, and odour control. The delivery of the microbial agents is done via automatic dosing pumps controlled through timed switches. Further upgrades were completed on the air supply lines in the sumps, which aids in the activation and effectiveness of the microbial agents, allowing them to work more effectively.

In the prior manual treatment process, dosing with flocculants, coagulant, caustic soda, and sulphuric acid was needed to meet the effluent limits for the quality of water that can be discharged to the municipality. This resulted in significant

sludge formation and free-floating oils in the sumps and ongoing operational costs to manage these. The results of the test during the 12-week trial were pleasing and samples reveal that all municipal effluent specifications were met. There has been a notable improvement in chemical oxygen demand and pH stabilisation at the midrange of the allowed tolerance. Other notable benefits of the solution are sludge reduction over a longer period within the sumps and less free-floating oils, reducing the need for skimming and annual sludge disposal.

The company has achieved a 38% reduction in waste disposal through the microbiological treatment process vs chemical treatment process. During the 11 months prior to microbiological treatment, it disposed eight bins equating to 160.94 tonnes while in the 11 months during which the company has been using microbiological agents it has disposed five bins, equating to 108.30 tonnes.

The value of this project is a greener supply chain, with reduced water and chemical effluent footprint, benefiting all stakeholders.



Focus on Members: Projects continued

Tanker Services Food and Chemicals – a division of Imperial Logistics South Africa Group (Pty) Ltd (Stikland):Initiative: **Water Sustainability**

In response to the “Day Zero” drought scare in Cape Town a few years ago, Tanker Services quickly realised that greater effort and focus should be put on finding an alternative water supply to ensure that less strain is put on the local municipality to provide the company with potable water and sustain the supply to society.

At the Stikland Depot, the company uses 160 000 litres of water daily. With the company’s goal to practise good sustainability practices, it understands that it is important to use what it needs now, but also to ensure it has systems in place to provide for tomorrow’s needs.

Using various geo-hydrological testing, a feasibility study was conducted to investigate possible abstraction of underground water at the depot. This testing yielded fantastic results with abstraction volumes measured at 972 000 litres per day through two drilling points identified.

The project kicked off with the drilling of two boreholes. The second phase involved the design of an adequate filtration system. After some initial setbacks with the quality of water, a reverse osmosis system was added to ensure potable water that was compliant to SANS 241:2015. The system was approved by the Department of Water and Sanitation and a Water Use Licence (WUL) was issued.

Other future innovations include that water used in the last rinse cycle when cleaning food tankers is stored and reused to wash

non-food tankers to ensure a reduction in usage of clean potable water. Although the company’s boreholes provide an alternative water source, the company still needs to ensure that it uses it in a responsible way to ensure long-term benefits.

The company’s rain-harvesting project has been a great success as water is collected from all roofed areas from administration offices, workshops and washbay. Once filtered, water collected in storage tanks is used at the washbay.

By being able to clean tanks, it allows the company to load a variety of different products and provides an advantage in a very competitive market. By washing tanks to load the next product, the company can minimise “dead kilometres” and pass these savings on to customers and the environment.

This project has provided the company with great financial savings but more importantly ensures sustainability for this very important resource. Water is life!

Throughout this installation, staff could see the financial input from the company as



well as the project team’s desire to see the success of the project. This resulted in staff practising great water saving methods. It was amazing to see the attitude towards water consumption, water quality and

water sustainability. The willingness to implement more sustainable practices was not only to keep trucks and tanks clean, but also to assist in providing solutions to staff, customers, and the country.

Focus on Members: Awards

The 2021 award winners and runners-up were announced at the combined 83rd Annual General Meeting, 2021 Responsible Care[®] Report Launch and Responsible Care[®] Award Ceremony held virtually on 17 November 2021.

Eligibility

All companies/facilities/sites that are implementing and maintaining the Responsible Care[®] Initiative along the chemicals value chain in South Africa, are eligible for the awards. The different awards have specific conditions that need to be met for consideration. These conditions are subject to an annual review.

Responsible Care[®] Award

The CAIA Responsible Care[®] Award was first launched in 2003 to recognise the achievements of companies beyond basic compliance with the Responsible Care[®] Initiative. The award recognises outstanding year-on-year improved performance. In 2020, candidates were selected by greatest average net improvement over several key areas. This award is open to all Responsible Care[®] signatories (excluding LSPs), that have finalised two consecutive years' KPI data. All other CAIA requirements, where applicable, must be up to date, such as membership payments and third-party audits. Signatories are excluded from consideration if an in-house fatality was reported in the most recent data under consideration.



Award Winner

Arch Wood Protection (SA) (Pty) Ltd



Runner-up

AECI Industrial Chemicals,
– a division of AECI Ltd -
Chamdor



Runner-up

AECI Industrial Chemicals,
– a division of AECI Ltd -
Umbogintwini



Responsible Care[®] LSP Award

In 2011, CAIA introduced the Responsible Care[®] LSP Award to recognise top performers from the road transportation sector. The conditions are identical to the Responsible Care[®] Award. This award is open to all LSP Responsible Care[®] signatories that have finalised two consecutive years' KPI data.



Award Winner

SA Landside Logistics
(Pty) Ltd



Runner-up

Tanker Services Food
and Chemicals,
a Division of Imperial
Logistics South Africa Group
(Pty) Ltd – Jacobs



Runner-up

Tanker Services Food
and Chemicals,
a Division of Imperial
Logistics South Africa Group
(Pty) Ltd – Stikland



Focus on Members continued

Responsible Care® Sustained High Performance Award

This award acknowledges the positive contribution that continual commitment to the Responsible Care® Initiative can have on sustaining high SHE and security performance. It honours signatories that have sustained high performance over the last three years.



Award Winner

Manline Energy (Pty) Ltd
– Chemicals
Inland



Runner-up

AECI Mining Explosives, a division of AECI Mining Ltd



Responsible Care® Initiative of the Year Award

This award is presented in different categories that are open to all Responsible Care® signatories, for initiatives undertaken in 2021 that were not related to implementing legal requirements. The Responsible Care® Initiative of the Year Award's purpose is to:

- Highlight the importance of SHE and Corporate Social Responsibilities (CSR) initiatives.
- Recognise Responsible Care® signatories in two categories (company projects and CSR projects) for their commitment and investment.
- Facilitate the publication of achievements resulting from these initiatives.

Company Project A



Award Winner

BME, a Division of Omnia Group (Pty) Ltd



Runner-up

Sasol South Africa Limited



Company Project B



Award Winner

Nuvest Recovery Solutions (Pty) Ltd



Runner-up

Labchem (Pty) Ltd



CSR



Award Winner

Dow Southern Africa (Pty) Ltd



Runner-up

Sasol South Africa Limited



Runner-up

Safripol (Pty) Ltd



Verification of Responsible Care[®] Implementation

CAIA needs to verify that companies are implementing Responsible Care[®] as per their commitments. Signatories are required to annually self-assess their progress in implementing the CMP and/or the SQAS-AFRICA Management System as well as undertake third-party audits using CAIA-certified auditors, every three years for full members and every two years for associate members (mainly LSPs).

The following audits took place during the reporting period.

Standard		Number of Audits	Number of Certificates Issued
RCMS		12	12
SQAS-AFRICA Management System	User Group Companies	152	152
	CAIA members	33	33

Responsible Care[®] Benefits

If Responsible Care[®] is implemented effectively, the costs that can be avoided include:

Quantitative

- Lives saved – cost of death and injury is spared.
- Property damage costs reduced.
- Business interruption costs saved.
- Market share stake preserved.
- Incident investigation costs saved.
- Regulatory penalties avoided.
- Regulatory attention is reduced, avoid increased audits and inspections.

Qualitative

- Investors perceive a lower risk when making buying/selling decisions.
- Company reputation is protected.
- Value of corporate image and brand are improved.
- Enhances lender confidence/access to lower interest rates.
- Provides credibility with regulators.
- Enables attracting and retaining quality staff.



Acronyms and abbreviations

AGD	Audit Guidance Document	MHI	Major Hazard Installation
BUSA	Business Unity South Africa	OHS	Occupational Health and Safety
CEO	Chief Executive Officer	PCC	Presidential Climate Commission
CLMF	Chemical Logistics Management Forum	PSF	Process Safety Forum
CMP	Codes of Management Practice	PSM	Process Safety Management
CSR	Corporate Social Responsibility	RBPSM	Risk-based Process Safety Management
DFFE	Department of Forestry, Fisheries, and the Environment	RCLG	Responsible Care® Leadership Group
DoEL	Department of Employment and Labour	RCMR	Responsible Care® Management Representative
DoH	Department of Health	RCMS	Responsible Care® Management System
ESG	Environmental, Social, and Governance	RCSC	Responsible Care® Standing Committee
GHG	Greenhouse Gas	SABS	South African Bureau of Standards
GHS	Globally Harmonized System of Classification and Labelling of Chemicals	SAICM	Strategic Approach to International Chemicals Management
ICCA	International Council of Chemical Associations	SDG	Sustainable Development Goal
ICCM	International Conference on Chemicals Management	SHE	Safety, Health and Environment
JSE	Johannesburg Stock Exchange	SHEQ	Safety, Health, Environment and Quality
KPI	Key Performance Indicator	SOP	Standard Operating Procedure
LSPs	Logistics Service Providers	SQAS- AFRICA	Safety and Quality Assessment for Sustainability-AFRICA
MCCM	Multi-stakeholder Committee for Chemicals Management		
MEAs	Multilateral Environmental Agreements		