

Environment



Access to a clean, healthy and sustainable environment has been declared a universal human right. To enable a healthier world, we must take steps to reduce the impact we have on the environment as we convert and use natural resources in the manufacture and distribution of our quality medicines and APIs.

Strategic objective



Stakeholders



Capitals



Our commitment

We are committed to practising responsible environmental stewardship seeking to minimise any negative impact our operations have on the environment in compliance with applicable laws, regulations and other environmental management requirements.

Our material sustainability topics

- Climate change and greenhouse gas ("GHG") emissions
- Energy efficiency
- Waste
- Water and effluent

Our impact

- Ensured a sustainable supply of energy and water, critical to our ability to operate
- Implemented various initiatives to reduce our consumption of natural resources and carbon emissions
- Responsible management and disposal of hazardous and non-hazardous waste and effluent
- Committed to transparency through CDP and TCFD-aligned disclosures

22%

reduction on Scope 1 and Scope 2 emissions over the past five years

34%

reduction in water withdrawn over the past five years

80%

waste recycled and only 5% to landfill

CDP-CC and CDP-WS performance improved

to "B- Management Level" and "B Management Level", respectively



Additional information available online:
Aspen Sustainability and ESG Data Supplement
Aspen Code of Conduct

Our contribution to the SDGs

We contribute to the following SDGs and targets through our actions aligned to our material sustainability topics:

SDG 6 Ensure availability and sustainable management of water and sanitation for all



- 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemical and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity

SDG 7 Ensure access to affordable, reliable, sustainable and modern energy for all



- 7.3 By 2030, double the global rate of improvement in energy efficiency

SDG 12 Ensure sustainable consumption and production patterns



- 12.2 Achieve the sustainable management and efficient use of natural resources
- 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

SDG 13 Take urgent action to combat climate change and its impacts



- 13.2 Integrate climate change measures into national policies, strategies and planning

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Approach to environmental stewardship

We are committed to practising responsible environmental stewardship, seeking to minimise any negative impact our operations may have on the environment and to comply with applicable laws, regulations and other environmental management requirements. We promote the efficient use of resources such as energy, water, packaging and production materials, with due regard to the scarcity of natural resources and the environmental impact resulting from the utilisation and application of such resources in conducting our business activities. We are a participant of the UN Global Compact and fully support global initiatives aimed at protecting the environment and conserving natural resources.

This year we joined the National Business Initiative in South Africa as well as the World Wide Fund for Nature Inc. as corporate members. Through these partnerships we intend to engage in collaborative thought leadership, collective action and knowledge sharing on climate and other related topics.

The implementation of our Group Environmental Policy (incorporating the Group's environmental management principles) and compliance with all applicable legislation are the responsibility of designated business unit executives.

Our Board monitors the status of environmental risks through the review of material environmental management performance indicators at scheduled intervals. In addition, any significant environmental risks are escalated through the Group risk management process. The Social & Ethics Committee assists the Board in monitoring compliance with the relevant environmental legislation and monitoring the adequacy of environmental management systems. Under the direction of a Group Chief Corporate Services Officer, the Group Risk & Sustainability function develops and promotes our environmental management principles and standards, with the Group SHE Operations function monitoring the alignment of business

units' environmental management systems with the Group's standards. In addition to this, an Executive Sustainability Forum was established in August 2022 to oversee the development of the Group's sustainability strategy and ensure integration and alignment of the sustainability objectives with business priorities. This forum (chaired by the Group Chief Operations Officer) comprises members of the Group executive and other senior managers, and has executive oversight of the Group sustainability performance.

Our environmental management systems are aligned with global standards. Environmental certification covers 83% of our manufacturing sites with all of our fully commercialised primary finished dose form manufacturing sites and all, but one, of our API manufacturing sites currently complying with ISO 14001:2015. The Sioux City and Ghana sites have been excluded from certification due to the limited scale of their operations.

During the year, a number of environmental training interventions were conducted across the manufacturing sites to ensure the consistent application of environmental principles, standard operating procedures and compliance with legislative requirements, and to create awareness of new developments. The Group participates in a number of industry platforms in order to keep abreast of initiatives and technological developments focused on the efficient use of scarce natural resources. Awareness campaigns were rolled out across the Group in celebration of World Water Day and World Environment Day. A platform for the sharing of best practice on manufacturing-related environmental topics was established this year. This manufacturing sustainability COE comprises small and medium enterprises from across the Group and has enabled knowledge sharing on various environmental themes.

The Aspen Code of Conduct for Suppliers and Service Providers requires our vendors to conduct their business in an environmentally conscious manner and to ensure compliance with the applicable environmental legislation.

Material environmental issues

There are no material environmental issues to report.

An external environmental legal assurance process was conducted in 2022 and no exceptional legal environmental findings were noted. No fines were paid in respect of environmental non-compliances this year.

Climate change and GHG emissions

Managing emissions

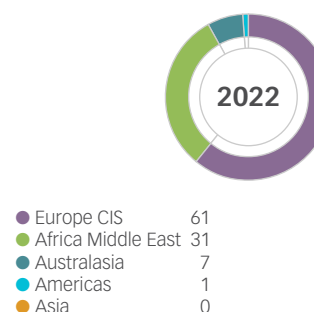
Climate change is one of the greatest challenges facing the world and we are cognisant of its effects on our health, livelihoods, natural habitats and ecosystems, as well as extreme changing weather patterns. We recognise the potential environmental, social, political and economic implications of climate change as a significant issue. Our environmental management principles promote the climate resilience and containment and reduction of our carbon footprint both within our operations and in the broader supply chain in a technically and economically feasible manner. We pursue this objective through investment in energy-efficient equipment and the utilisation of green energy technologies where feasible. In addition to this, we have taken a strategic decision to implement bolder initiatives towards climate change. The strategy includes the drafting

of a climate position paper, identifying longer-term climate-related risks and opportunities through a climate scenario analysis, and the completion of a company-wide climate risk assessment. The results of the climate scenario analysis together with the work being conducted by collaborative cross-functional teams will inform the formalisation of company-wide targets and the development of a position paper and strategies to achieve these targets. Progress on these initiatives is monitored through structured systems, reporting and management.

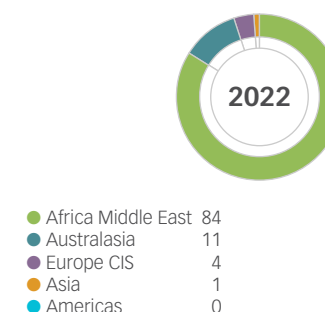
Scope 2 emissions, comprising purchased steam and purchased electricity, represent our largest source of emissions. The main sources of our Scope 1 emissions are from fugitive refrigerants and the consumption of fuel and natural gas used primarily in our stationary combustion equipment, such as boilers and standby generators, and the operation of Aspen-owned vehicles.

A significant reduction in emissions for Scope 1 (10%) and Scope 2 (22%) was achieved for the year. Reductions in Scope 1 emissions are mainly attributed to favourable ambient temperatures enabling better fuel efficiency for steam production at our sites in Europe. Successful energy savings projects implemented at Gqeberha as well as the use of renewable energy at the South African Operations and Oss contributed

Scope 1 emissions (40 082tCO₂e) (%)



Scope 2 emissions (111 181tCO₂e) (%)



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significantly to the reduction in Scope 2 emissions. Energy demand at FCC was lower during 2022 due to reduced operations in certain production centres which resulted in a reduction in both Scope 1 and Scope 2 emissions.

Over the past five years, a decrease of 22% (41 954 tCO₂e) in combined Scope 1 and Scope 2 emissions for the Group has been realised. The operations in South Africa contribute 67% to our carbon footprint, followed by the Oss site (12%). Although the divestment of the Nutritionals business at the end of 2019 and Mexico Vallejo at the end of 2021 resulted in a significant reduction in emissions for the Group, the use of renewable energy combined with lower energy consumption from the closure of several plants at Oss, including a solvent recovery unit, contributed largely to the reduction in Scope 1 and Scope 2 emissions. A notable reduction in Scope 2 emissions was also achieved through equipment optimisation at Oss, which included upgrading of the boiler house, installation of variable frequency drive refrigeration compressors and LED lighting, and the replacement of a demineralised water installation. Despite the increase in energy required for expansion at the Gqeberha facility over the past few years, several installations relating to solar energy, LED lighting, hot water heat pumps, chiller plants, as well as modifications to heating, ventilation and air conditioning ("HVAC") and air change rates, were successfully implemented or optimised.

We continue to participate in the CDP-CC and we improved our rating to "B- Management Level" in 2021, which recognises structured management of climate issues and the associated impacts. We are striving to improve our rating even further through the setting of company-wide carbon emission reduction targets and conducting climate change risk assessments which include a climate scenario analysis.

In accordance with GMP regulations, we have technically advanced air handling systems and exhaust filtration systems at all relevant facilities to maintain the correct environmental conditions

and minimise the risk of the release of harmful substances into the atmosphere. Through the implementation of periodic stack emission tests, we have established that the systems implemented have minimised harmful air emissions to immaterial levels.

Energy

Electricity is a critical resource utilised in our manufacturing processes and is becoming an increasingly expensive commodity. In South Africa, there continues to be a risk of supply interruptions at times of excessive load on the national electricity grid and load shedding is still implemented intermittently by Eskom, the public power utility. While our Gqeberha and East London sites were not subject to load shedding, FCC did make use of generators to provide electricity requirements at times of load shedding. The Group's annual electricity usage for 2022 has decreased by 5% (34 821 gigajoules) in comparison to the prior year. This reduction was attributed mainly to energy conservation projects realised at the Moleneind site and production at FCC being concentrated to only a few production facilities, which greatly reduced energy demand during 2022.

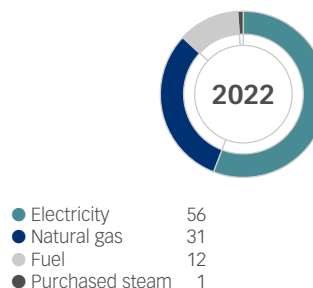
Through the efficient use and conscious conservation of electricity, we are committed to reducing the impact of increased electricity prices on production costs, and will ensure that critical energy resources are conserved.

Additional energy sources utilised by Aspen are fuel, liquid petroleum gas, purchased steam and natural gas.

Waste

As part of the pharmaceutical and chemical industries, a fair portion (26%) of our waste is classified as hazardous. Specific systems and processes are in place to manage both our hazardous and non-hazardous waste in compliance with the waste management legislation applicable in each territory. We use specialised licensed waste management service providers to manage the transportation, treatment

Energy used by source type (1 071 532 GJ) (%)



and disposal of waste in accordance with contracted terms and relevant legislation.

The volume of waste generated by the Group increased by 5% in 2022. This variance is largely influenced by the varying animal raw material form supplied to the Sioux City site and the high volumes of construction waste generated at the Alphamed site. The percentage of waste recycled (80%) was negatively affected by non-recyclable building debris landfilled from the fire (which took place in June 2021) and subsequent construction at the Alphamed site. Only 5% of total waste generated is landfilled.

Spills and soil contamination/ground pollution

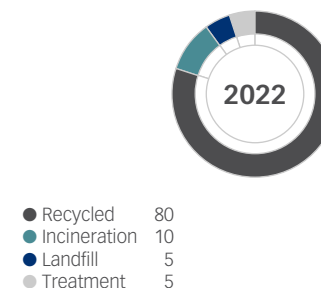
With our continued focus placed on implementing necessary corrective and preventive actions to curb incidents of spillages, we managed to curb the total number of significant spills to a reasonably acceptable level. A total of two significant spillages were recorded in 2022, with only a negligible portion of the total volume of reported spillages not fully contained.

Water and effluent

Water

We use water extensively in our manufacturing processes, in the cleaning of our equipment and facilities, for employee hygiene, in steam generation and to maintain the required

Waste generated by disposal method (74 277 tonnes) (%)



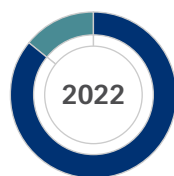
manufacturing environmental conditions. Municipal water is the primary source of water across the Group, although groundwater is also used at the manufacturing sites in Notre Dame de Bondeville, Oss, Dar es Salaam, Nairobi and our facilities in Gqeberha. Water scarcity and water supply are global risks that are increasing in impact and probability. In addition to climate change-related risks, sustainable water supply is further exacerbated by increased urbanisation and the ageing municipal infrastructure in certain areas.

As a scarce resource, we recognise that initiatives aimed at conserving and harvesting water will contribute to more sustainable water availability. We are committed to ensuring responsible water management at all our manufacturing facilities as per our Group environmental policy. We conduct an annual review of our water risk and water stress assessments for all manufacturing sites using a web-based tool in order to better understand our exposure to these risks and inform our future sustainable water management and water stewardship initiatives.

For the assessment and quantification of water stress, we use the World Resource Institute's Aqueduct Water Risk Atlas, which indicates water risk trends of what can be reasonably expected based on historical data. The assessment tool allows us to understand current water risks and

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Water withdrawal (1 039 megalitres) (%)



● Municipal water 86
● Ground water 14

anticipate future risk based on the measured ratio of total water withdrawals to available renewable surface and groundwater supplies in the respective water basins. Our sites in Cape Town and Hyderabad are situated in extremely high

water-stressed areas. The Aqueduct Water Risk Atlas does not currently classify Gqeberha as a high water stress location. However, considering surface water availability in the region, we have included this site in the top water risk category. The water withdrawn from these sites (23% of the total number of manufacturing sites in the Group) represents 29% of total water withdrawn for the Group.

Our manufacturing sites in East London, Dar es Salaam, Accra, Sioux City, Vitoria and Notre Dame de Bondeville are considered to be situated in low water-stressed locations. Future projections show that our manufacturing sites in Gqeberha, East London, Cape Town, Hyderabad as well as Dandenong will be extremely water stressed in the next five to 10 years.

		Extremely high water stressed	High to medium-high water stressed	Medium-low to low water stressed	Total
Water withdrawn	Mℓ	302	449	288	1 039
Water discharged	Mℓ	206	427	201	834
Water consumed	Mℓ	96	22	87	205
Water withdrawn	%	29	43	28	100
Water discharged	%	25	51	24	100
Water consumed	%	47	11	42	100

Water withdrawn has decreased by 5% (57 megalitres) for the year. A notable water reduction was achieved for the Moleneind site, attributable to the successful implementation of various water efficiency projects. In addition, water demand at FCC was lower during 2022 due to reduced operations in certain production centres.

Over the past five years, water withdrawal has reduced significantly by 34% (545 megalitres) within the Group. The Oss and Gqeberha sites contribute to more than 50% of the volume of water consumed by our manufacturing

operations. Although the divestment of the Nutritionals business at the end of 2019 and Mexico Vallejo at the end of 2021 resulted in a notable water reduction for the Group, the Oss site played the most significant role in realising the positive downward trend, with a water reduction of 344 megalitres from 2018 to 2022. This was attributed largely to the decommissioning of a water purification plant in De Geer, cooling towers and a chemical plant at Moleneind, the disposal of the operation at Corellistraat, and the use of efficient closed water-based cooling systems all based in the Netherlands.

We participated in the annual Water Security Disclosure Project in 2021 and had an improved performance score of “B Management Level”. Our B rating is within the “Management” band, which recognises companies that are assessed as taking actions associated with good water management.

Effluent

The quality of effluent discharge is monitored and controlled across all sites, in accordance with local municipal by-laws. Water treatment plants are in operation where required to ensure legal compliance. In the event that there is a deviation from the required standards, a thorough root cause analysis is conducted and corrective action plans are implemented.

Biodiversity

As at year-end, none of the Group’s business units were located in conservation areas or areas of high biodiversity.

TCFD

We acknowledge the increasing expectations for greater transparency in reporting around the impacts, risks and opportunities of climate change. We are progressively reviewing and aligning our management and reporting approach with the recommendations of the Financial Stability Board’s TCFD. The majority of requirements are addressed in our annual CDP-CC submission available [online](#). A table summarising our current reporting in terms of the TCFD’s recommendations is included in our Sustainability and ESG Data Supplement [online](#).

Our sustainability commitments in action

A focus on water stewardship by our API sites

We recognise the importance of producing medicines in the most sustainable manner. Sustainable production means we also need to consider our responsibility to preserve the environment, for instance, through water stewardship.

We are actively reducing our water consumption such as at our API site, Fine Chemicals Corporation in South Africa, which is located in a water-scarce region. By implementing various water-saving projects over the past few years, the site has reduced its municipal water intake by 52%.

This effort also benefits the local communities that share the same water resources. Besides reducing consumption, we are also looking for ways of treating and recovering water on-site for utility systems. Instead of using freshwater, we use recycled water in the cooling system.

We continuously improve our processes and use environmentally friendly chemicals. Moreover, we eliminate toxic chemicals from our water effluent before entering the environment. Our chemical production plants in the Netherlands, including containment pits, have been disconnected from the main sewage system, preventing the discharges of potentially harmful materials into the surrounding environment. Process water collected at the Moleneind site is evaporated and then condensated at a specialised water treatment facility before being discharged to the sewage system. API material is removed from the effluent during the condensation process because APIs are non-volatile. The remaining API material is discarded as hazardous waste and incinerated.

Since 2011, our De Geer site has reduced 98% of estrogen discharges to wastewater. Aspen API aims to achieve zero-emission of aquatic hazard substances by 2030.