

SUEZ Isle of Man Annual Public Report

2023





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Foreword

As the island's energy-from-waste facility approaches its 20th anniversary, we celebrated another milestone in December 2023 ...

**... the millionth tonne of waste
processed on Richmond Hill.**



It was another successful year for SUEZ Isle of Man. As this annual report outlines, the team sustained our exemplary track record of safe, environmentally responsible and efficient operations. Their efforts also fulfilled the SUEZ commitment to the triple bottom line, balancing the interests of people, the planet and profit.

For almost two decades, the facility has not only avoided the need to landfill or export huge volumes of residual materials, but also the heavy emissions of carbon and methane that would result. Over that time, more than 460,000 megawatt hours of electricity (MWh) have been exported to power homes and businesses.

In 2023, the annual contributions were 49,000 tonnes of wastes treated and 22,600 megawatt hours of electricity generated. This was accomplished while maintaining control of emissions to the tightest standards and meeting our efficiency targets. It was also possible to reduce chemical consumption in the gas cleaning process.

Implementation of the site's Sustainability Action Plan continued apace, with more than 60 measures taken to benefit the local environment – all identified and carried out or overseen by our own people. Having gained membership of the **UNESCO Biosphere**¹ Partnership Programme, SUEZ Isle of Man will carry on promoting sustainability in and around the site over coming years.

The year saw 10 changes in our small team, reflecting SUEZ policy of developing its people and creating worthwhile career opportunities on the island and within the wider group. Colleagues volunteered a day's work for good causes – this year sprucing up the garden of the island's hospice and the sports hall in Peel built in memory of Grand Prix racer Tommy Clucas.

They also found time to raise more than £2,000 towards our overall annual target of £101,010 for Macmillan Cancer Support. That figure was chosen to mark 10 years of fundraising for our national charity partner – another important milestone.

We look forward to celebrating the facility's 20-year anniversary in 2024, and thank our people and all our stakeholders for their commitment and support over the 12 months outlined in this report.

John Scanlon

Chief Executive Officer
SUEZ recycling and recovery UK

Jon Garrad

Plant Manager
SUEZ Isle of Man

¹ www.biosphere.im

Introduction

Welcome to our annual report on the
Isle of Man's energy-from-waste facility.



Covering the calendar year 2023, this publication provides a full summary of our operations on Richmond Hill, as required by the Department of Infrastructure. All relevant waste management activities are included, along with detail on the facility's environmental performance.

We also report on SUEZ Isle of Man's corporate social responsibility, in line with our parent company's commitment to be open and accountable to the communities we serve.

As before, the information set out in this report has been reviewed and verified independently by inspection and certification specialists, The Sustainable Growth Company Ltd.

SUEZ recycling and recovery UK

SUEZ Isle of Man is a subsidiary of SUEZ recycling and recovery UK and, in turn, part of the global SUEZ group.

The UK business was established in 1988 and, in the decades since, has both grown and changed significantly. Originally a specialist in landfill engineering and management, the company has become a champion of the circular economy. Rather than 'take, make and waste' materials – as in a linear economy – the aim is to reuse, recycle and recover maximum value from all material resources.

These services help reduce the carbon footprint of customers, while protecting the environment from pollution and minimising other impacts.

SUEZ in the UK is not only a leader in energy-from-waste, but also in manufacturing substitute fuels and in operating technologies such as anaerobic digestion and gasification. Other activities include processing waste wood, facilitating the re-use of discarded household goods and recycling street sweepings, as well as composting food and garden waste.

Our values

Respect

We care, we can be our authentic selves, we're compassionate, we're ethical and we're honest. We act to keep everyone safe and well.

Team spirit

Together, we work, we collaborate, we problem solve, we support, we encourage and we celebrate.

Commitment to the environment

We preserve, restore and protect our planet. We act to reduce, reuse, recycle and recover resources.

Customer focus

We're dedicated, focused and creative. We innovate, we advocate and we collaborate with our customers for the environment.

The SUEZ group

As part of a global group, SUEZ operations in the UK and Isle of Man benefit from access to world-leading expertise.

SUEZ has a 160-year history of providing essential water and waste services, and a long track record of innovation. Research and development is conducted at nine technical and innovation centres in Europe and Asia. The group employs around 44,000 people in 40 countries.

In 2022, SUEZ produced drinking water for 68 million people worldwide and sanitation services for more than 37 million people. It generated 3.7 terawatt hours² (TWh) of energy from waste and wastewater, and avoided the emission of four million tonnes of carbon dioxide.

² One terawatt hour equals one million megawatt hours (MWh)

³ www.suez.com/en/about-us/a-committed-group/2023-2027-roadmap

At the beginning of 2023, SUEZ updated its sustainable development strategy. The new roadmap for the period 2023-2027 commits the group to ambitious goals in terms of impacts on climate, nature and society³.

The 24 commitments include:

- ♦ **Climate:** A 26% reduction in greenhouse gas emissions from waste activities by 2030, and investment of €40 million in research and development dedicated to carbon capture and storage.
- ♦ **Nature:** Doubling the area of land restored every year to combat soil artificialisation and integrating local species in these land restoration projects from 2025.
- ♦ **Social:** Setting a target of zero incidents leading to serious injury at work and ensuring that by 2027, to promote social inclusion, 5,000 people will benefit from vocational integration through jobs and training each year.

UK operations

Employing more than 5,000 people, SUEZ recycling and recovery UK processed more than 10 million tonnes of waste in 2022.

This material was collected, recycled or treated through a national network of facilities. The company served more than 10.5 million households and 24,000 commercial and industrial customers.

Significant value⁴ was recovered in various forms:

- ❖ **Waste diversion:** 6.7 million tonnes diverted from landfill to recovery, recycling and re-use.
- ❖ **Re-use:** more than 3,000 tonnes of goods (furniture, household appliances, bicycles, etc) refurbished for re-sale.
- ❖ **Energy:** 1.6 million megawatt hours of electricity and 246,200 megawatt hours of thermal energy generated from waste, plus a further 145 megawatt hours of green electricity from wind and solar.
- ❖ **Alternative fuels:** more than 1.2 million tonnes manufactured from trade and residual waste.
- ❖ **Compost:** 73,000 tonnes produced from food and garden waste.

⁴ All figures are for 2022

UK and Isle of Man infrastructure

Richmond Hill is part of a 10-strong network of energy-from-waste facilities here and across the UK managed by SUEZ. Our energy division also operates facilities employing gasification, anaerobic digestion and landfill gas to generate electricity.

Our parent invested £29 million in its infrastructure and in research and development in 2022. The company's asset portfolio covers more than 300 locations, including transfer stations and other processing facilities.

- 6 composting facilities
- 10 energy-from-waste facilities
- 1 gasification facility
- 1 mechanical biological treatment facility
- 13 refuse derived fuel facilities
- 2 solid recovered fuel facilities
- 1 anaerobic digestion facility
- 115 household waste recycling centres
- 15 materials recycling facilities
- 3 street sweepings recycling facilities
- 81 transfer stations
- 6 wood processing facilities
- 29 re-use shops

Developments in 2023

In line with the Group's ethos, SUEZ recycling and recovery UK is committed to balancing the interests of the planet, people and profit – the triple bottom line.

Supporting the shift to a circular economy serves this triple purpose, as exemplified by re-use. Repairing and refurbishing household goods – from small electricals to furniture and bicycles – diverts resources from landfill, supports worthwhile jobs and community enterprises, and generates revenue for councils and savings for local people.

SUEZ recycling and recovery UK continued to make this environmental, economic and social case through its thought leadership at national level in 2023:

- ❖ The third of its research reports on the subject, published in April 2023, argued the need to make re-use and repair the norm rather than the exception to achieve a truly circular economy. SUEZ outlined how developing a more competitive and accessible re-use retail market would accelerate this transition. With the right policy support, the report – **Re-use: seizing the opportunity**⁵ – estimated that by 2028, the sector could be handling more than 15 million items and generating sales revenues in excess of £63 million per year in the UK.
- ❖ Earlier in the year, SUEZ launched the second in a series of guides to help local authorities integrate re-use within their household waste recycling centres – **The repair evolution**⁶.
- ❖ In September, a **SUEZ survey**⁷ revealed that home movers threw away up to £150 million worth of goods each year. We also published a **waste prevention guide**⁸ for local authority initiatives. The same month a **paint re-use programme**⁹ operated for Surrey County Council was shortlisted for a National Recycling Award.
- ❖ SUEZ again backed the **call for a Right to Repair**¹⁰ on International Repair Day (21 October 2023). More than 110 community and groups signed a declaration pressing the UK government to extend right-to-repair regulations to all consumer products.

⁵ www.suez.co.uk/en-gb/news/press-releases/230404-seizing-the-reuse-opportunity

⁶ www.suez.co.uk/en-gb/news/press-releases/230220-the-repair-evolution

⁷ www.suez.co.uk/en-gb/news/press-releases/230918-home-movers-research-reveals-brits-could-be-throwing-away-up-to-150m

⁸ www.suez.co.uk/en-gb/news/press-releases/230913-solutions-for-stuff

⁹ www.suez.co.uk/en-gb/news/press-releases/230919-praise-for-paint-re-use-project

¹⁰ www.suez.co.uk/en-gb/news/press-releases/231020-the-right-to-repair

Meanwhile, the expansion of the UK business continued with the purchase of two commercial waste collection and recycling companies – **Devon Contract Waste**¹¹ in the South-West and Luton-based **Cawleys**¹².

With operations across north London, the latter acquisition marks SUEZ's entry into lithium ion battery processing. New contracts were also secured from local authorities in Milton Keynes, Mid Kent, Southend-on-Sea and East Devon.

Other developments during the year included:

- ❖ **Alternative fuels:** SUEZ struck a **partnership with Circular Fuels Limited**¹³ to develop the UK's first industrial-scale operation to convert waste into a low-carbon replacement for liquid petroleum gas (LPG). The facility will use gasification technology.

- ❖ **Waste tyres:** Another agreement with **Germany's Pyrum Innovations**¹⁴ is for the UK's first plant using its patented pyrolysis technology recycling around 20,000 tonnes of end-of-life tyres per year.

- ❖ **Anaerobic digestion:** Plans for a **new digester**¹⁵ were approved by Blackburn with Darwen Borough Council. To be built on the site of the company's existing resource recovery park, it would convert food waste into gas for the grid or produce electricity via the facility's generators.

- ❖ **Sustainable business:** The world's largest and most trusted provider of business sustainability ratings, EcoVadis, awarded SUEZ its **Gold Medal ranking**¹⁶. A first-time score of 72 out of 100 puts the business in the top 3% of rated companies in the materials recovery sector.

¹¹ www.suez.co.uk/en-gb/news/press-releases/231002-suez-expands-commercial-collections-business-in-the-uk-with-acquisition-of-dcw

¹² www.suez.co.uk/en-gb/news/press-releases/231218-purchase-of-cawley-ltd-suez-announces-second-expansion-of-uk-commercial-waste-and-recycling-business-in-2023

¹³ www.suez.co.uk/en-gb/news/press-releases/231115-suez-recycling-and-recovery-uk-explore-partnership-with-circular-fuels-limited

¹⁴ www.suez.co.uk/en-gb/news/press-releases/230620-suez-and-pyrum-join-forces-to-build-tyre-recycling-plant

¹⁵ www.suez.co.uk/en-gb/news/press-releases/230217-suez-recycling-and-recovery-uk-plans-to-build-anaerobic-digestion-facility-in-darwen-approved

¹⁶ www.suez.co.uk/en-gb/news/press-releases/230926-suez-recycling-and-recovery-uk-secures-gold-medal-ecovadis-rating-in-first-year-of-assessment

Purpose and principles

SUEZ's purpose, to which we all subscribe, is building a sustainable future that doesn't cost the earth.

We have a series of principles and commitments to guide our progress. Agreed following consultations with employees, customers and communities, they cover eight areas where we can have the greatest impact.

Lead by example

Embed the environment and social value at the core of how we do business, to make an increased difference year-on-year.

Employees

Create a network of sustainability champions to empower and support employee action and develop our understanding of the key issues we face.

Carbon

Reduce the carbon emission intensity for each tonne of waste we handle for our customers and our own activities per employee year-on-year.

Re-use

Expand our network of re-use facilities to increase the volume of items reused, repaired or repurposed.

Supply chain

Improve the environmental, social and economic impact of our supply chain year-on-year.

Communities

Continue to be a good neighbour in the local community, taking part in local events and increasing what we spend with local suppliers.

Biodiversity

Take action at every SUEZ location to improve its natural environment.

Education

Share our knowledge and expertise to develop the resources sector, influence public behaviour and build a future workforce as part of the UK's creation of a sustainable future.

Manx waste management

The Richmond Hill facility continues to play a central role in the Isle of Man's waste strategy.

With the capacity to process most of the residual waste from Manx households and businesses, the energy-from-waste facility is also capable of handling other, more challenging waste streams. These range from clinical wastes received from hospitals to bio-pellets from the island's sewage treatment plant, and from meat and bone meal left over from animal waste processing to used tyres and waste oils.

Not only does this versatility support the island's self-sufficiency and minimise reliance on scarce landfill, the diverse waste streams provide a feedstock for generating electricity, bolstering energy security.

Approved by Tynwald in July 2018 and reviewed regularly, Manx strategy seeks to optimise sustainability and self-sufficiency within the constraints of a small island economy.


European and UK regulations on packaging producers and manufacturers' take-back schemes do not apply to our imported goods. Access to markets for recyclable materials and waste electrical and electronic equipment (WEEE) is subject to regulatory and commercial uncertainties. Specialist treatment facilities for hazardous waste are not economically viable.

SUEZ Isle of Man currently manages the transshipment of hazardous wastes on behalf of the government and will continue to operate the energy-from-waste facility under our current contract until August 2029. Provided operations sustain the high standards for emissions and efficiency, Richmond Hill will remain at the heart of the island's environmental strategy beyond that date, supporting the government's aim of a self-sufficient, zero-waste society and helping preserve the island's natural heritage by treating its residual waste as a resource.

Managing waste

Just under 50,000 tonnes of waste were processed over a year that saw a notable milestone with treatment of the millionth tonne of waste since operations began in 2004.





This chapter focuses on operations – from the mix of materials treated to the outputs, and consumption of raw materials to major maintenance works. We also report on performance against our efficiency targets and begin with a description of the technologies employed on Richmond Hill.

The energy-from-waste process

Our facility is designed to process most of the island's waste safely and efficiently, protecting the environment while generating the maximum amount of electricity for export to the grid.

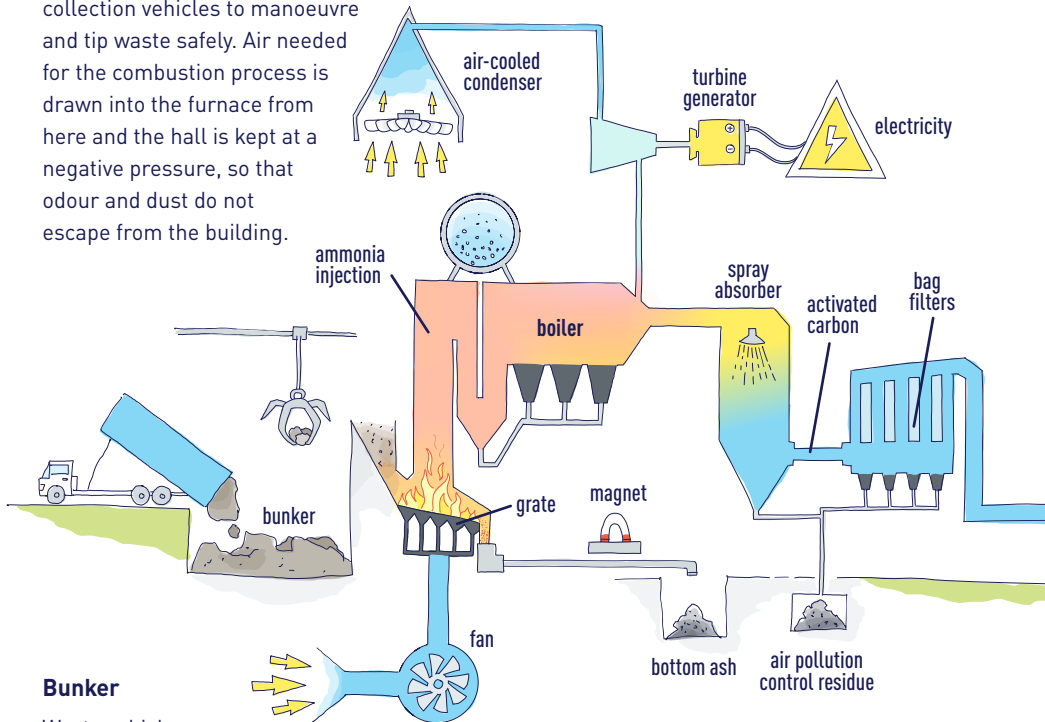
There are two processing lines. The primary treats municipal and commercial waste, but can recover energy effectively from various other materials. It has a total annual capacity of 60,000 tonnes. The facility's secondary line was designed for animal, clinical and waste oils. It can handle up to 5,000 tonnes, but now operates only for short periods as animal waste is processed at the Department of Infrastructure's Animal Waste Processing Plant. Used oils and most clinical wastes can also be treated safely by the primary line, enhancing the facility's overall flexibility and efficiency.

Waste is burned at temperatures of over 850°C in the furnace of the primary line, while on the secondary line, the minimum operating temperature rises to 1,000°C in its secondary chamber, where volatile gases are incinerated. These thresholds are set out in the EU Industrial Emissions Directive, which is designed to ensure the safe operation of processing facilities and destruction of waste.

On arrival at Richmond Hill, waste vehicles use an automatic weighbridge set back from the site entrance, so that vehicles do not have to queue on the public highway. Waste type and amount, as well as customer details, are recorded and the driver is directed to the appropriate delivery bay.

Reception hall

A large reception hall allows refuse collection vehicles to manoeuvre and tip waste safely. Air needed for the combustion process is drawn into the furnace from here and the hall is kept at a negative pressure, so that odour and dust do not escape from the building.



Bunker

Waste vehicles reverse to a wheel-stop and tip their loads into a large concrete bunker. At 60,000 tonnes of waste delivered per year, this is big enough to hold 16 days' waste, so that tipping can continue when the facility is shut down for maintenance. A shredder, for bulky items such as mattresses, also discharges material directly into the bunker.

Control room

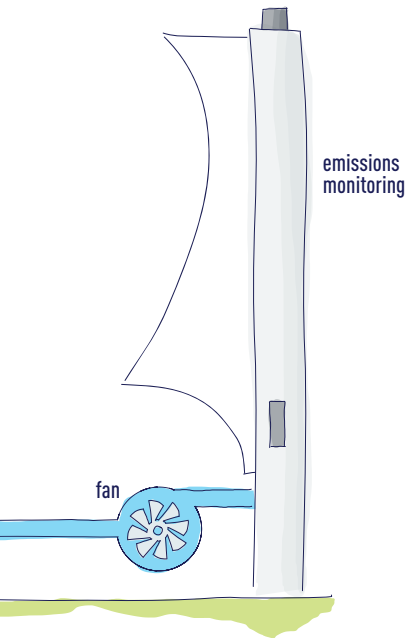
The facility's control room centralises the operation of all equipment, including the grab crane used to mix and load waste into a hopper that feeds the furnace. All on-site functions are monitored both automatically and manually. Control systems verify in real time that equipment is functioning properly, continuously monitor the combustion gas and maximise the efficiency of the entire energy-from-waste process.

Grate and boiler

Combustion air is blown up into the bottom of the water-cooled grate through five computer-controlled zones. The thermal energy released from the burning is used to convert water into super-heated steam. At high pressure, this steam drives a turbine-alternator to generate electricity.

Electricity generation

Electricity is generated at 11kV. At full capacity, around 1.5 megawatts is used to power the facility, leaving up to 5.5 megawatts for export to the Manx Utilities Authority, which distributes it around the island. The facility's switchgear is designed to protect the island's supplies from interruption.



Bottom ash

Ash left on the grate after incineration is carried by conveyor, after quenching, to a storage bunker. A magnet above the conveyor extracts ferrous material for recycling. The remaining bottom ash is sampled for contaminants before being removed for disposal to landfill.

Air-cooled condensers

After exiting the turbine, the steam is cooled and condensed back into water through air condensers. This recovered water is treated and reused in the boilers to produce more steam.

Emission control

The gases from the furnace are subject to a rigorous cleaning process involving selective non-catalytic reduction, spray absorbers and active carbon injection. This removes oxides of nitrogen, acidic gases, dioxins and heavy metals from the gas stream.

Air pollution control residue

The cleaned gas is passed through fine-fabric bag filters to remove solid particles before it is emitted through the stack. The resultant air pollution control residue, or fly-ash, contains particles from the incineration process, lime used in the spray absorbers, salts and carbon dust. It is analysed for contaminants and stored in a sealed silo or bags (approved under international rules for the carriage of dangerous goods) until it is collected for disposal in specialist, authorised facilities.

Emissions monitoring

As they pass through the stack, the residual flue gases from the process are continuously monitored before release. This data is relayed automatically to the control room and to a secure recorder.

The results of monitoring are set out in the data tables at the end of section five. The emissions management systems and all environmental incidents are detailed in section three, which describes how we manage the facility's environmental impacts.

Our operations

When the volume of waste in the bunker falls below the level required for several days' continuous operation, there is no option but to shut down the primary line. In January 2023, as there was insufficient waste, we took this opportunity to make repairs to the grate system.

During the outage, 13 rows of grate bars were replaced in the primary furnace along with numerous flexible hoses that supply cooling water. Four hydraulic cylinders on the grate and two deslagger cylinders were also replaced, while other minor repairs were completed.

The main maintenance shutdown was scheduled during May 2023. Major works included an upgrade of the main control system's software. Several critical plant elements were replaced, such as a boiler wall panel and tubes of the second steam superheater system (after both were shown to be thinning in previous thickness surveys). A corroded screw conveyor was also replaced with an upgraded stainless-steel version.

A major overhaul of the riddlings chain conveyor that transports ash involved removal, stripping and cleaning. Over-plating and other repairs were required due to corrosion. All other plant conveyors were inspected and any worn parts replaced as part of their routine maintenance regimes.

This outage also allowed a series of inspections to go ahead, including annual turbine and boiler surveys, and statutory insurance inspections of pressure systems required by regulations.

Operational efficiency

Annual targets help drive operational efficiency, as have many of the continuous improvement projects implemented over the years.

Our maintenance regime has evolved also in line with best practice across the SUEZ energy division – and has become increasingly proactive as the facility's plant and equipment age, and we redouble our efforts to minimise operational failures.

Our maintenance teams monitor vibration in pumps, motors, fans and other equipment with moving components to assess their serviceability and pre-empt critical deterioration. Maintenance intervals and repairs are tracked on our Mainsaver computer system, which helps ensure servicing work is carried out in a timely and efficient manner.

There are two main targets for maintenance performance:

- ❖ Overall equipment effectiveness (OEE) is a measure of the availability and downtime of critical pieces of plant and equipment. When setting the annual target, we take account of waste flows. The 2023 target was reduced slightly to 61.9%, given a sizeable decrease in waste delivered. By the end of the year, the overall equipment effectiveness outturn was 65.14%, which surpassed expectations.
- ❖ The second indicator benchmarks the level of preventative, as opposed to reactive, maintenance. During the year, asset health checks were carried out on 88.8% of relevant assets – short of the 90% target due to an ongoing secondment and recruitment initiative in the maintenance team. The results of the monitoring showed that 94.4% of plant and equipment items required no action – above the 90% target set for the year.

Continuous improvement

As part of our corporate strategy for continuous improvement, all employees are encouraged to identify and propose projects that would result in better ways of working. Based on the principles of 'lean' thinking, the aim is to eliminate waste, enhance safety or improve efficiency or other outcomes in any and every area of the business. Ideas that prove effective are also shared around the group, especially across its energy-from-waste facilities.

SUEZ audits the continuous improvement programmes at its sites and we also set ourselves a target of completing five projects each year.

In 2023, these involved:

- ❖ **EPRAIS PTW implementation.** This is an electronic permit to work system which ensures greater consistency and a higher level of safety compared to the previous paper permit system.
- ❖ **LMS training system implementation.** This replaced an Excel spreadsheet and provides a greater level of transparency to both employees and management of training needs while ensuring a consistent approach to role specific training across the energy business.
- ❖ **Replacing a screw conveyor** in the 2nd/3rd pass with an upgraded stainless-steel model that will limit corrosion from acidic flue gases.

- ❖ **Replacing the majority of inverters on site,** which change direct current to alternating current, with standardised units by our preferred manufacturer giving a greater amount of resilience to the plant.
- ❖ **A full upgrade of the computerised control system** that monitors plant-critical equipment and functions. This involved both operating software and some hardware components, which will facilitate maintenance and support from the manufacturer, Siemens Automation.

Improvement projects planned for 2024 will be:

- ❖ **An upgrade to the burner B control panel** with a view to reducing oil usage and improving reliability.
- ❖ **Upgrading the plant lighting system** to a completely LED based system improving electrical efficiency, employee safety due to increased lux levels and environmental efficiency.
- ❖ **Replacement of the fire pumps** to provide greater resilience.
- ❖ **The reverse osmosis water purification plant** is also earmarked for upgrade to allow re-polishing of stores demineralised water which will reduce the sites water usage.





What we processed

The throughput of waste dropped below 50,000 tonnes for the first time since 2020, it is thought the increased focus on recycling on the island and the increased cost of living is resulting in less waste being produced. At just over 49,070 tonnes, the total processed was down by 1,820 tonnes – around 3.5% – on 2022 levels.

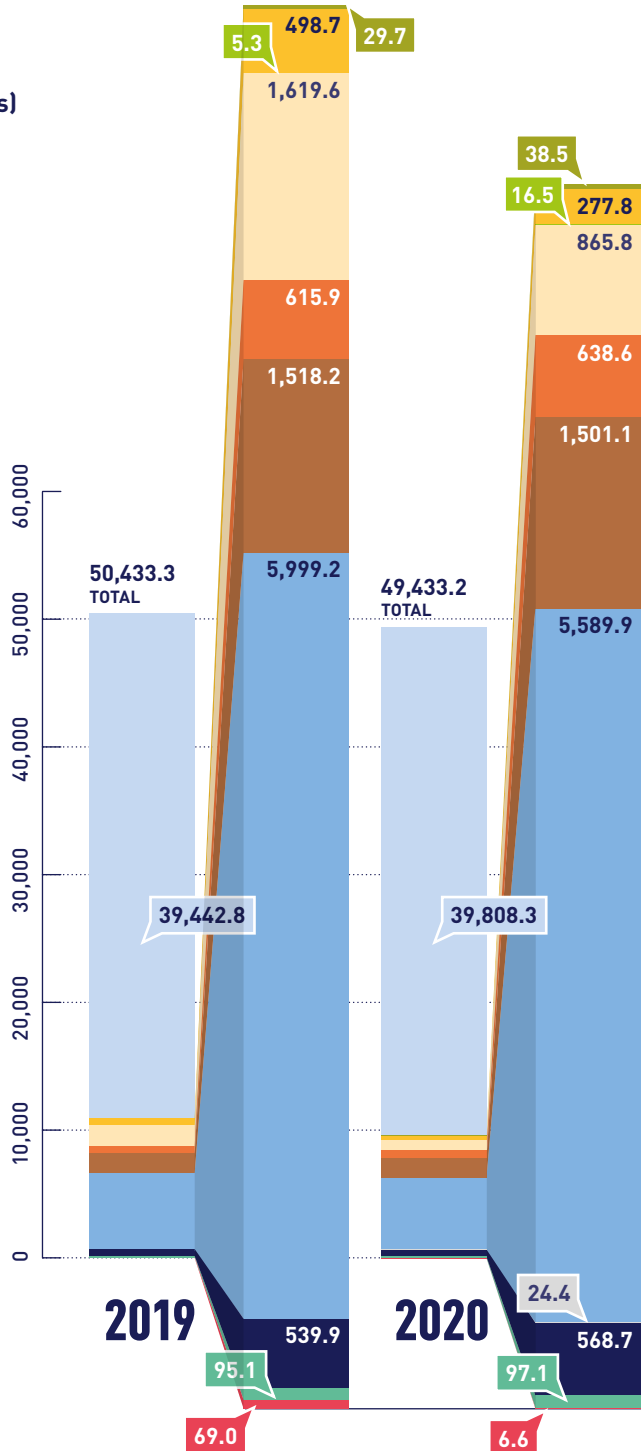
The reduction in municipal waste was around 2%, with larger falls in packaging, construction materials and wood. The only waste streams that increased on the year before were meat and bone meal (the residue from animal waste processing) and used tyres, whose numbers increased by 20%, or some 128 tonnes.

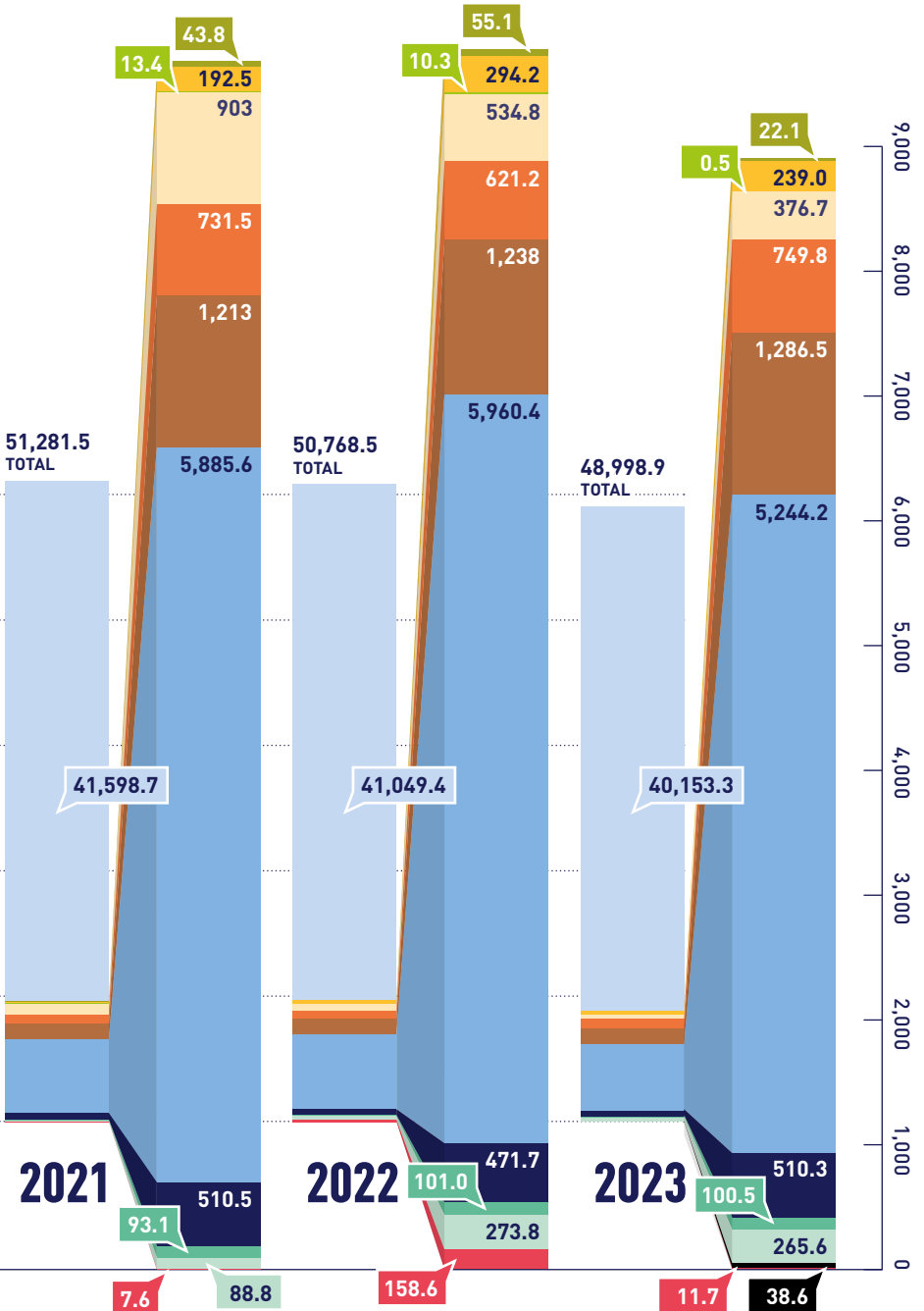
Similar amounts of waste oils were processed on both lines and, once again, less clinical waste was treated compared to the previous year, although this is still higher than pre-COVID clinical waste tonnages.

Waste incinerated in the primary line (tonnes)

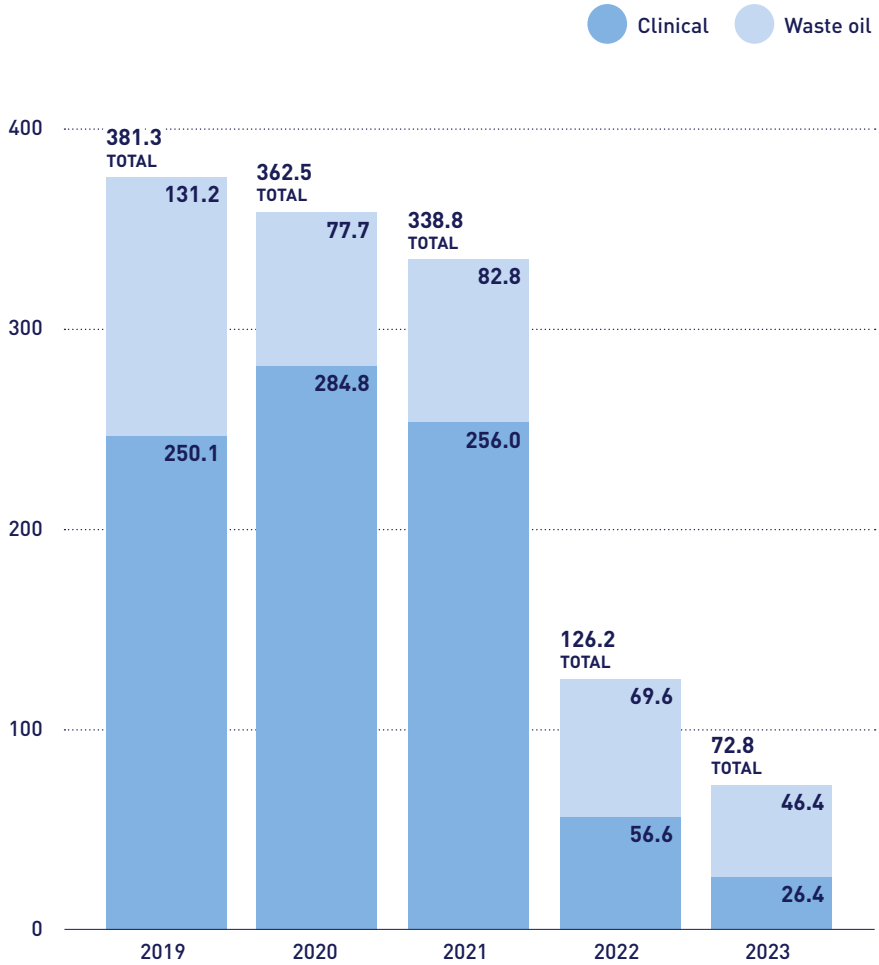
Types of waste

- Municipal
- Confidential
- Construction
- Food industry (previously dairy)
- Packaging
- Tyres
- Screenings and biopellets
- Wood
- Forestry waste
- Meat and bone meal
- Hygiene waste
- Clinical waste (excluding sharps and cyto)
- Waste oil and coolant
- Other





Waste incinerated in the secondary line (tonnes)



Marking a milestone

In December 2023 – just under 20 years since the facility was commissioned – the cumulative amount of waste processed on Richmond Hill surpassed 1,000,000 tonnes.

By diverting household waste from landfill, the Isle of Man has avoided emissions of carbon and methane, a complex leachate management plan and a 60-year plus site aftercare period. Instead, the facility has exported power – more than 468,000 megawatt hours of electricity – to help meet the needs of local homes and businesses.

The capability to recover energy from waste tyres, oils and bio-pellets as well as residual trade waste has proved a bonus for the island's self-sufficiency. By hosting school and other groups at the site's visitor centre, the facility is also an amenity for the community.

Both SUEZ Isle of Man and the Manx Government hailed the landmark.

Infrastructure Minister Tim Crookall MHK said:

“The energy-from-waste plant is helping the Isle of Man Government deliver energy derived from waste to homes and businesses across the Island. The facility plays an important role for our community and reaching the one million tonne milestone is a great opportunity to celebrate our partnership with SUEZ.”

Our Plant Manager Jon Garrad added:

“Surpassing 1,000,000 tonnes is a big milestone for our operations and we're really proud to play our part in helping to power the Isle of Man through processing its waste effectively and sustainably. We'd love to show the facility to more of the island's residents and give them the opportunity to hear about how the process works, and we look forward to continuing to support the local community and our environment in partnership with the Manx Government.”

Generating energy

The facility exported more than 22,640 megawatt hours of power to the Manx Utilities Authority – 11% less than in 2022. This was partly due to the drop in waste throughput and partly due to the failure of the air-cooled condenser fan A resulting in poor vacuum at the turbine and decreased efficiency. More power had to be imported over the year which reflects the increased hours the plant was offline.

There was also a smaller fall in the rate at which power was produced, compared with 2022. At 0.462 megawatt hours per tonne of waste, this was due to the air-cooled condenser efficiency as previously mentioned.

Other outputs and inputs

Apart from electricity, the main output of energy-from-waste is bottom ash. Other by-products are fly-ash and ferrous metals. As for inputs, the waste treatment process depends on supplies of water, gas oil and three chemicals.

Bottom ash

Ash deposited on the furnace grate is the largest physical by-product of waste incineration. The amount varies with the efficiency of combustion, as well as the throughput of waste and the mix of materials.

In 2023, both the rate at which ash was produced and the total tonnage (of 9,180 tonnes) were lower. The reduction of more than 7% amounted to 750 tonnes. Increased recycling on the island and tighter controls on incoming waste loads are probably helping to reduce ash production by diverting more inert materials, glass and metal.

Bottom ash is an inert material that can be processed to remove contaminants and used as a substitute aggregate in cement-bound materials and other applications in construction. The contaminants are naturally occurring compounds that make up around 5% of the ash. It is sampled for contaminants before transportation to landfill at the Turkeylands New Quarry, where the material is stored.

Air pollution control residue

There was little or no change in the rate at which fly-ash was generated in 2023. The yearly total fell in line with the throughput of waste to around 1,400 tonnes.

Air pollution control residue (APCR) derives from ash particles that rise with gases as they leave the furnace, are sprayed with chemicals in the gas scrubbing process and then trapped by fine-fabric bag filters. The resultant mix of chemicals and ash is treated as a hazardous waste due to its high lime content and the presence of carbon dust, salts, heavy metals and dioxins.

Their concentrations vary with the waste mix. Combustion of batteries, for example, releases carbon monoxide and hydrogen fluoride, which must be neutralised. Carbon dust is created when activated carbon is sprayed into the flue to encapsulate heavy metals such as lead, chromium and arsenic.

Sampling of air pollution control residue is performed each quarter. The residue is sealed in special bags approved for transportation and then in containers for shipment to a specialist recovery facility in north-east England.

Ferrous metals

Within the incoming waste stream, various metals such as pieces of steel and iron are mixed amongst other materials. After passing through the furnace, these metals are picked up from the ash conveyor by an overhead magnet.

The amounts recovered vary depending on the mix of incoming wastes. Some 330 tonnes of ferrous metals were recovered for recycling in 2023 – almost 40% less than the year before, due to the availability of the overband magnet which removes the metal.

The value of the metals to reprocessors is lower after incineration. Additional amounts can be recovered after the ash is left to mature at the Turkeylands landfill, when the quantity is sufficient to cover the cost of further processing by specialist contractors (as in 2022).

Aluminium cans are non-ferrous and melt during incineration, which can cause problems on the grate. Recovery is not feasible, but aluminium can be reprocessed almost indefinitely, so should be diverted for recycling.

Water

Water plays essential roles in the energy-from-waste process for cooling the furnace grate and in the boiler. This produces super-heated steam to drive the turbine, which generates electricity. Water is also consumed in general cleaning, in the offices and visitor centre.

Systems are in place to recycle rainwater. The steam condensate loop ensures that the steam exiting the turbine is condensed back to water and reused in the boiler.

Since 2022, the facility has a new water treatment system that produces demineralised water for the boiler without requiring the same quantities of chemicals as the previous system while also allowing for faster production of demineralised water.

Water usage rose by 40% over the 12 months to more than 18,000 tonnes following problems with the grate cooling heat exchanger. As heat was not being removed from the circulating grate water, the system was dumping large volumes of water and drawing more cold water to reduce the abnormally high temperatures. This was repaired in the September 2023 outage and water usage returned to normal.

Diesel

Burning of diesel is essential to maintain minimum temperature levels during start-up and shutdown, in scheduled maintenance periods, for example. Oil burners can also be triggered when non-compliant waste or other problems interrupt the continuous loading of the grate, causing temperatures to drop.

Diesel consumption increased in 2023 by 50 tonnes, as a result of several such operational factors. High sulphur dioxide levels following the May 2023 scheduled outage forced our operations team to stop feeding waste and resort to the burners. The facility's reliance on diesel also increased due to a low furnace temperature during plant start-up following grit-blasting of the boiler as part of these planned maintenance works.

To achieve a temperature of greater than 850°C, the burners were required to be used while also processing waste. This is unusual for the plant, as usually once waste is introduced to the grate, diesel is no longer used. Towards the year's end, burners had to be used to shut down and re-start the plant (accounting for almost 100,000 litres of the fuel) as a result of tube leaks in the boiler and the failure of the base plate of the feed table where waste is fed into the furnace.

On the secondary line, which operated only for two short periods over the year, there was a 30% increase in oil usage. This is due to a temporary deviation from standard operating procedure that involves extended reliance on the burners to accommodate both emissions testing and waste incineration. Normal operations will resume following an upgrade project to be completed at the end of 2025.

While we strive to reduce diesel usage for environmental reasons, our overriding priority is to ensure compliant and efficient operation of the energy-from-waste process.

Chemicals

The three chemicals used to clean the gas stream from the furnace – ammonia, carbon and lime – prevent harmful elements escaping to the environment. Consumption is monitored to manage resource efficiency while ensuring that the strict emission standards in our operating licence are met.

- ❖ Ammonia: Injected into the boiler, ammonia removes the oxides of nitrogen that form from the waste and air.

Total consumption exceeded 450 tonnes – a reduction of more than 3%, in line with the lower amount of waste treated. There was a small increase in the rate of usage per tonne of waste.

- ❖ Carbon: The fall in carbon consumption was sharper – at 16% – to 21.5 tonnes. Activated carbon adsorbs dioxins and trace metals in furnace gases.

The reduction was due to changes in the way carbon dosing was controlled to prevent excessive fluctuations. Changes were made to both the control system and Shift Manager intervention procedures.

- ❖ Lime: Used to neutralise acidic gases, an alkaline lime solution is sprayed in the flue. Again, there was a notable reduction in usage – of around 10% – to just over 21 tonnes. This saw the largest drop in the consumption rate, per tonne of processed waste, of almost 14%.

The year saw fewer spikes in sulphur dioxide levels compared to recent years, in large part because the site's tightened inspection regime for delivery skips is detecting or deterring non-compliant wastes, such as plasterboard. 2023 included a period of four days where skip deliveries were prohibited into the site to gain control over sulphur dioxide levels. This was an unprecedented decision in agreement with the Department of Infrastructure in response to repeated deliveries of waste containing plasterboard and plaster.

Previously, other chemicals were also consumed in water purification. An ion exchange system required caustic acid and hydrogen chloride. Its replacement, a plant which uses reverse osmosis to purify water, is chemical-free.

Other activities

Of the diverse services offered by SUEZ in the UK and beyond, two more are provided on the island.

Hazardous waste

Since 2007, we have been responsible for managing hazardous waste on behalf of the government.

Our expert staff analyse and classify these substances, which are stored on-site in a purpose-built building until consolidated into economic loads for shipment off-island. Having determined the most appropriate treatment or disposal option, we make the necessary arrangements and draw up the trans-frontier shipment notices required under international law.

During 2023, there were 10 shipments. Nine were for dimethylformamide solvents used in manufacturing, which are recycled. The other load comprised acids, which were shipped for disposal at an appropriately licensed specialist facility in the UK.

Other substances – including acids, flammable waste and alkali cyanides – were taken into storage from manufacturers, labs and healthcare facilities for future shipment.

Confidential waste

To protect potentially sensitive information, organisations that no longer require records can have them destroyed securely within the energy-from-waste facility.

The tonnage disposed of fell back to around 22 tonnes following an increase in volumes post-pandemic.





Managing environmental performance

The high bar set for environmental protection on Richmond Hill has been met consistently since the facility was commissioned in 2004.

It was surpassed in 2023.



In this section of the report, we describe our environmental policy and management systems, disclose all exceedances of licence limits and outline other impacts including carbon emissions.

All the supporting data is collated for easy reference in the final section of the report.

SUEZ environmental policy

SUEZ Isle of Man operates within the policy framework set by our parent company. Standardised and tested environmental management systems and procedures govern operations at all SUEZ sites. They are designed to minimise environmental impacts.

The SUEZ environmental policy demands, as a minimum, complete compliance with the terms of our site licence and all relevant legislation and regulations. Wherever practicable, we must strive to exceed those standards.

Our performance is monitored for compliance and also against objectives and targets to drive continuous improvement.

Our integrated policy statement for environment, health, safety and quality

SUEZ Recycling and Recovery UK Ltd recognises that how we manage our customers' and our own waste has an impact on the environment, the health and safety of our employees, persons working on our behalf, and the public. From a position of leadership in the UK's recycling and waste management industry, SUEZ is fully committed to the effective management of all such issues associated with our activities.

Management responsibility

The Management Board will ensure that responsibility for environmental, health and safety, and quality issues is clearly defined and understood throughout the company. All activities will be conducted in a manner designed to: protect the health and safety of our employees, persons working on our behalf and the public; ensure the sustainable consumption of resources, mitigate the causes of climate change and biodiversity loss, and protect the environment from risk of pollution; and ensure a high quality of service for our customers.

Managers should be aware that a European Health and Safety agreement exists. This sets out the standards that the Company expects in respect of securing the health, safety and welfare of our employees and all other persons that could be affected by our business activities. A copy of the agreement can be found in the policy statement section of the SUEZ policies and procedures database.

Legislation

SUEZ will comply with and wherever possible exceed existing environmental, health and safety, fleet and other pertinent legislative requirements at all stages of our business activities and operations.

Stakeholder relations

SUEZ recognises the importance of our relationship with stakeholders: employees, the public, contractors, customers and shareholders. We will communicate this Policy to them, report annually on performance and engage with stakeholders so as to understand and consider their expectations in the way we manage our business.

Continuous improvement

SUEZ will monitor and measure progress by setting improvement objectives and targets to ensure continuous improvement in performance.

In order to mitigate the impact on the environment, enhance health and safety management and performance, and ensure delivery of service to all our customers, SUEZ will:

- ❖ Commit to eliminate hazards and reduce occupational health and safety risks in order to prevent injury and ill health and promote a positive health and safety culture.
- ❖ Prevent pollution or harm and protect sensitive receptors from industrial incidents and uncontrolled or unintended emissions.
- ❖ Mitigate exposure to climate change.
- ❖ Continue to improve biodiversity across all our sites each year.
- ❖ Become carbon positive by preventing more carbon than we generate by 2040.
- ❖ Help our customers reduce waste and reuse more, creating solutions to reuse more material by 2030.
- ❖ Empower the sustainability network to drive forwards sustainability improvements across our sites.
- ❖ Use suppliers or contractors that have environmental and health and safety standards compatible with our own wherever possible, and maintain good customer and supplier relationships.
- ❖ Continually reassess all the above in light of changing technology, legislation, the precautionary principle, business requirements and best practice.
- ❖ Ensure adequate resources are provided to meet specified customer and company requirements.
- ❖ Ensure personnel working for and on behalf of SUEZ are aware of their responsibilities and comply with our policies and procedures.
- ❖ Regularly evaluate and review company performance and service provision.
- ❖ Commit to consultation and participation of workers and where they exist, workers' representatives.
- ❖ Evaluate the incident and crisis preparedness, response and recovery protocols to mitigate risk.
- ❖ Drive forward the promotion of health and wellbeing programmes, providing resources to support our employees.

The Management Board will periodically review this policy to ensure that it continues to meet the needs and aims of the business.

Management systems

Our management system integrates all procedures for environmental protection, health and safety, and quality of service in one place. There is one clear set of rules for ensuring responsible, safe and effective ways of working for all activities.

From reception of incoming waste deliveries to disposal of bottom ash, all aspects of operating the energy-from-waste facility are covered. There are procedures also for reporting on our performance, including exceedances of licence limits, to the island's regulator.

The management system meets international standards and is subjected to external verification.

Since operations began, our system has continuously met the environmental requirements of ISO 14001. We also satisfy the equivalent standard for quality management – ISO 9001:2008. Our procedures and operations undergo regular independent assessments to maintain certification, in addition to compliance auditing.

Environmental compliance

As stated in our environmental policy, SUEZ Isle of Man is committed to meeting and surpassing, where practicable, the standards laid down in Manx laws and regulations, and relevant UK and European legislation.

This local legislation includes:

- ❖ The Public Health Act 1990
- ❖ The Collection and Disposal of Waste Regulations 2000
- ❖ The Import and Export of Waste Regulations 2001
- ❖ The Town and Country Planning Act 1934-1991 (as amended 1999)

Local regulation is the responsibility of the Environmental Protection Unit, which reports to the Department of Environment, Food and Agriculture.

Compliance audits

Our site's compliance with the government's waste disposal licence was audited in October 2023. The Environmental Protection Unit was satisfied with how our operations are managed and scored our compliance as excellent.

The site's accreditation to ISO 55001 – the international standard for the management and safety of assets – was renewed following another external audit in November 2023. No actions or improvements were required.

During the year, we also carried out our own internal audits of asset management – including lubrication, quality assurance and control, and fault investigation – and the matrix for managing mandatory competency and other training.

Environmental impacts

Our management system and procedures are designed to minimise the environmental impacts of our operations. Staff are highly competent and trained to carry out all activities in ways that are safe and protect the environment.

The risks are set out in the facility's Significant Environmental Impacts Register, which records all potential effects, positive and negative. Maintaining the register and reviewing risks helps identify possible improvements in operations and informs emergency planning.

As well as emissions to air, water and land, listed impacts range from noise and odour to the biodiversity around the site, and specific activities such as the delivery and storage of fuel, chemicals and hazardous waste, and handling and disposal of ash residues.

Emergency planning

To safeguard against environmental or physical harm, appropriate procedures must be in place and followed to manage incidents and emergencies.

We test our preparedness in emergency drills. Staff on duty have no prior warning and their response to the situation is monitored and reviewed. Our targets for 2023 included a commitment to carry out a minimum of four emergency drills. Twelve were completed, simulating scenarios including a chemical spillage, bottom ash blockage, injury requiring first aid, loss of compressed air and various types of fire including lithium ion batteries.

Responses were also tested to other emergency situations, such as a person falling into the waste bunker, telephone bomb threat, unauthorized persons on site and flooding.

Any lessons to be learnt from these exercises are shared with all relevant employees and used to update procedures and inform our risk management.

Our environmental performance

Under the terms of our site licence, all emissions to air, water and land from the facility are closely monitored. Energy-from-waste is one the most tightly regulated processes in Europe. The monitoring regime is defined by the EU Industrial Emissions Directive.

The results of all monitoring are reported to the Environmental Protection Unit.

Emissions to air

Gases are analysed as they pass through the flue by a continuous monitoring system. The readings taken after the scrubbing process are recorded automatically and compared against the emission limits set in the facility's operating licence.

The system measures the following:

- ❖ Particles
- ❖ Carbon monoxide
- ❖ Sulphur dioxide
- ❖ Hydrogen chloride
- ❖ Oxides of nitrogen
- ❖ Volatile organic compounds
- ❖ Ammonia

Certain compounds that cannot be measured continuously are still subject to licence limits and periodic testing. Monitoring of dioxins, furans and dioxin-like PCBs is quarterly, while testing for heavy metals and PAHs takes place twice a year¹⁷.

Half-hourly limits are set for some other compounds and a 10-minute interval applies to carbon monoxide. The facility may still operate in full compliance with its licence conditions when these thresholds are exceeded, but a shutdown must occur as soon as practicable if the emission is not brought back under control within a specified time.

All exceedances must be reported to the Environmental Protection Unit along with the results of our investigation of each incident. Our staff take the corrective action, where applicable, before closing the event.

We report daily emission data for the continuously monitored parameters on our website (www.suez.co.im). Graphs show the daily readings for each parameter and emission limit, and the emissions profile for the previous 90 days for both lines.

¹⁷ Polychlorinated biphenyls (PCBs) are banned carcinogenic compounds formerly used to insulate electrical equipment such as transformers. Polycyclic aromatic hydrocarbons (PAHs) occur naturally in crude oil and coal, and also result from incomplete combustion of refuse or wood.

Licence emissions limits

Emissions to air

	Half-hour average	Daily average	Other limit
Particulate matter	30 mg/m ³	10 mg/m ³	
VOCs as Total Organic Carbon	20 mg/m ³	10 mg/m ³	
Hydrogen chloride	60 mg/m ³	10 mg/m ³	
Hydrogen fluoride			2 mg/m ³
Carbon monoxide		50 mg/m ³	150 mg/m ³ <small>95% of all 10-minute averages in any 24-hour period</small>
Sulphur dioxide	200 mg/m ³	50 mg/m ³	
Oxides of nitrogen	400 mg/m ³	200 mg/m ³	
Cadmium and thallium (and their compounds)			0.05 mg/m ³
Mercury (and its compounds)			0.05 mg/m ³
Sb, As, Cr, Co, Cu, Pb, Mn, Ni and V (and their compounds)			0.5 mg/m ³
Dioxins and furans			0.1 ng/m ³
Ammonia			*
Polyaromatic hydrocarbons			*
Dioxin-like PCBs			*

Discharges to water

The only discharges to water from the facility come from the site's sewage bio-treatment system.

In September 2023, a new river discharge licence replaced the conditions originally imposed in our waste disposal licence. Our procedures for operating and maintaining the treatment system had, in 2022, been revised in anticipation of new, tighter limits for biochemical oxygen demand and suspended solids.

We increased the frequency of de-sludging and replaced bleach-based toilet cleaning products with biological alternatives. Bacteria are also added to promote the natural process for treating sewage.

Emissions to water

Surface water	Limit
pH minimum	6
pH maximum	10
Conductivity	*
Temperature	30°C
Flow duration	*
Suspended solids	*
Chemical oxygen demand	*
Sulphides	*
Sb, As, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Ti and V	*
Visible oil	Nil
Ammonia (N)	0.6 mg/l

* Parameter does not have a limit stated in the waste disposal licence, but is required to be measured and reported to the Environmental Protection Unit.

Sewage treatment facility	Limit
pH minimum	6
pH maximum	9
Visible oil	Nil
Suspended solids	60 mg/l
Biochemical oxygen demand	50 mg/l

Licence variations

The Department of Environment, Food and Agriculture has the power to amend our operating licence and has made various variations over the last two decades. Most have allowed additional waste streams to be processed.

Approval of such changes is based on evidence showing that introducing the new material would not affect the safe, compliant and efficient operation of the energy-from-waste process.

No variations were made in 2023.

Measuring our performance

The operations team on Richmond Hill has a proud track record of managing emissions and achieving high environmental performance. This was sustained in 2023.

Cumulative emissions continue to be significantly below the maximum levels specified in our site licence. There were just four incidents when emissions exceeded half-hourly limits, all involving the primary processing line.

- ❖ **Dust particles:** On the last day of February 2023, dust levels rose and exceeded the licence limit. Following confirmation of the analyser readings and other checks, the bag filter cells were turned off – one at a time, leaving the other three online. Dust levels dropped when Cell C was taken out of service. A large blockage that had caused the failure was revealed and cleared as its bags were being replaced.

- ❖ **Dioxins and furans:** In April 2023, periodic testing indicated the presence of dioxins. This was despite maintaining furnace temperatures and carbon dosing rates well above their minimum recommended levels. Flue gases were also being cooled at a rate proven to limit dioxin formation. As all normal preventive measures were taken, further testing was commissioned from specialist contractors. Their verified results – for four distinct states of operation – fell well within the prescribed limits. The cause of the original exceedance, which remains undetermined, may have been due to some anomaly in dioxin formation. Subsequent tests indicate that the issue is not ongoing. Measures to prevent dioxin emissions continued to be monitored daily.

- ❖ **Sulphur dioxide:** The half-hourly limit was exceeded on 19 October 2023 when the atomiser, which sprays lime slurry in the flue, tripped. This was triggered by the failure of the housing for cables to the atomiser. After the housing was replaced, lime flow was re-established and no further spikes in sulphur dioxide were recorded.

- ❖ **Sulphur dioxide and hydrogen chloride:** Later that month, another trip occurred, this time due to an earth fault in the windings of the electromagnetic coils within the atomiser. Lime atomisation resumed after the faulty atomiser was replaced with a spare atomiser.

Biodiversity

By protecting the environment, our management system helps minimise impacts on local flora and fauna. We also try to enhance biodiversity.

Protective measures include controls on discharges to watercourses, as well as emissions to air, and our procedures for managing the movement and storage of oil, chemicals and hazardous wastes on site.

SUEZ aims to go further. Biodiversity is one of the core principles (see section one) adopted by our parent company. It is matched by a commitment to take action at every SUEZ location to improve its natural environment.

The imperative to enhance, not just protect, the natural environment at SUEZ sites reflects the principle of biodiversity net gain, which comes into force under UK legislation on land management and development in February 2024. SUEZ in the UK is carrying out baseline assessments of biodiversity at its sites and working with academic researchers to highlight the opportunities.

Plans are in place at all sites to boost biodiversity. Our Sustainability Action Plan takes account of the local ecosystem around our Richmond Hill site, the sensitivities of habitats and where we have the potential to conserve and promote biodiversity. Mike Valerga, our designated Sustainability Champion, leads on the plan and its implementation.

Nine activities were undertaken to boost biodiversity in 2023, including the creation of a 'bug hotel' and hedgehog hut, both from disposed wood. Our beehives produced 500ml of honey – we harvested less than the year before, so as to support the bees through the winter. Wood chips were used for a footpath laid to improve health and safety on the site.

In 2024, we will focus our biodiversity efforts on planting wild flowers to provide further support for the bees. We also plan to create a designated nature area that will promote biodiversity on site.

Supporting sustainability

The Sustainability Action Plan for our site earmarked a total of 63 measures – more than double the number in 2022.

These activities were in line with sustainability principles adopted by SUEZ recycling and recovery UK to guide environmental improvements at all its 300-plus sites. Examples include a lighting survey by consultants Sylvania, which will inform a project to replace all lighting with LED lamps to maximise energy efficiency.

We also made further improvements in our visitor and education centre designed to bolster our connections with the community. Students benefitted from both old and unused equipment donated to the engineering department at University College Isle of Man. By migrating our permits for maintenance and repair works to a digital system, we were able to reduce our paper usage. We also switched to air pollution control residue bags which are made from 30% recycled materials. An increase in car sharing and the use of electric vehicles when hiring cars was adopted in 2023 to lower the carbon footprint when travelling.

On the strength of these and other measures implemented over the last four years, we applied to the UNESCO Biosphere Partnership Programme. At the end of 2023, we received official acceptance. We will be working with the programme and its member companies as we continue to promote sustainability in and around our site over coming years.



Climate change

Both our global group and UK parent company are prominent in the drive to support the transition to carbon net zero.

SUEZ Group has set science-based targets to cut carbon emissions in line with the Paris Agreement's aim to limit global heating to 1.5°C above pre-industrial levels. The 2023-2027 Sustainability Roadmap (see section one) reflects that commitment.

SUEZ recycling and recovery UK supports the goal – of the British industry trade body, the Environmental Services Association – to achieve carbon neutrality by 2040. The company's carbon plan sets out a range of measures to reduce the carbon intensity of the business.

The latest calculations (for 2022) and the high sustainability ranking awarded by independent assessors (see section one) bear this out. Through its recycling, re-use and recovery services, SUEZ avoided more emissions on behalf of its UK customers than it generated through its operations. For every tonne of carbon dioxide (CO₂) emitted, the company avoided more than 1.5 TeqCO₂ (equivalent tonnes of CO₂). Carbon intensity also reduced from the year before by about 4% (helped by a recalculation to correct anomalies in previous years' calculations).

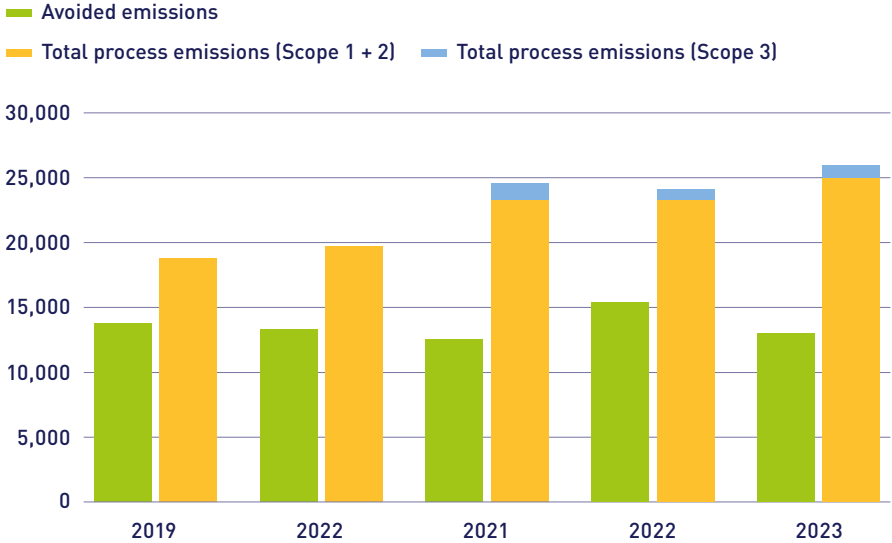
Calculating emissions

All SUEZ companies calculate and report their carbon emissions. The group's bonus/penalty incentive system for senior managers has, since 2021, taken account of each business unit's progress towards sustainability targets and adaptation to climate risks.

Also, since 2021, SUEZ Isle of Man has been estimating and reporting all the carbon emissions associated with its operations, including those arising within our supply chain.

- ❖ Scope 1 – direct emissions, for example, from operating mobile plant and vehicles, and in the case of an energy-from-waste facility, the furnace and boiler.
- ❖ Scope 2 – indirect emissions by the electricity or other energy supplier, providing power for lighting, heating and cooling in buildings.
- ❖ Scope 3 – emissions in the supply chain, for example, embedded in the products and materials consumed on site, and those associated with disposing of bottom ash.

Total process emissions and avoided emissions (TeqCO₂)



	2019	2020	2021	2022	2023
Avoided emissions	13,820	13,318	12,591	15,456	13,003
Total process emissions (Scope 1 + 2)	18,818	19,803	23,359	23,401	24,981
Total process emissions (Scope 3)			1,287	785	943

Corporate social responsibility

As a responsible company committed to the triple bottom line, we strive to do the right thing by our people and the community. We balance their interests with those of the environment and economic sustainability.

In this penultimate section of the report, we outline how we safeguard our employees' health and safety and contribute to society.



Our people

Safe and efficient processing of waste and energy recovery require advanced technologies and control systems – and competent and committed people to operate and maintain them. Our strong team underpins the sustained high performance of SUEZ Isle of Man.

SUEZ recycling and recovery UK takes a holistic approach to promoting the wellbeing of employees – in line with a Wellness for All charter based on the priorities of people across the business. The company invests heavily in training and development, and fosters an open, inclusive culture.

Our first duty is to provide a safe and healthy place of work for our people, contractors and other visitors to our site.



Health and safety

There are inherent hazards to those at work in any industrial setting. From reversing delivery trucks to manual handling, and confined spaces to generation of heat and gases – energy-from-waste poses both common and waste-specific risks.

Our safety strategy not only embeds safe ways of working in all procedures and activities, but also promotes a positive safety culture in which people take responsibility for their own and colleagues' welfare.

Called Safety in Mind, our award-winning behavioural safety programme was developed with the input of employees across our parent company. The aim is to promote safety consciousness and vigilance on the part of the individual, team and organisation. This is reinforced through various forms of training, 'toolbox talks', team meetings and by our safety representatives, who discuss and share colleagues' concerns and suggestions.

There were over 1,300 of these Safety in Mind conversations over the 12 months. Our own management team and managers from SUEZ recycling and recovery UK also make regular visits to the workface to observe and consult colleagues on safety matters. There were 44 such visits over the year. Our in-house app also captures what we call 'vigiminutes' – time taken to assess tasks in advance and ensure the right tools and safeguards are in place to minimise risk to those undertaking the work and anyone else who could be impacted. In 2023, more than 700 vigiminutes were recorded.

Our safety strategy and integrated management system are also informed by investigating all incidents and near misses. Much of our extensive training programme has a health and safety focus.

Incidents in 2023

There were two safety incidents resulting in injury and no instances of damage to property. Neither personal injury resulted in absence from work for three or more days – the threshold for reporting to the authorities under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations). In previous years, the number of (non-RIDDOR) personal injuries has averaged in the high single figures.

The first incident, in May 2023, involved a slip by a contractor on stairs and a bruised back. In July 2023, a rope access technician reported feeling a twinge in his left elbow. This resulted in a temporary loss of strength and 'pins and needles' in the arm.

We recorded and investigated 21 near misses, which are also on a downward trend. While these figures vindicate our Safety in Mind strategy and how it is put into daily practice, we are mindful of the ever-present risk our exemplary track record on safety breeds complacency. We must continue to ensure that our people and contractors on site go home safe at the end of each working day.

Training and development

We identify training needs and opportunities to promote the development of all our people. Progress is also tracked through our skills and mandatory training matrix.

Everyone in the operations and maintenance teams completes our in-house competency training and is formally assessed.

Investment in training also promotes continuous learning and fulfilling careers on the island and across the SUEZ Group. Our company strives to retain talent and promote from within, where possible.

During 2023, our people benefitted from around 1,870 hours of training – an increase of almost 75% on the year before. The bulk of courses related to safety in areas such as manual handling, confined spaces, fire awareness and rescue training.

Meanwhile, colleagues are supported as they pursue programmes ranging from apprenticeship to bachelor's degree or industry-accredited courses. In addition, our parent company has digitised many courses, offering flexible access to independent learning and modules designed to enhance complementary skills such as critical thinking, information analysis and problem-solving.

Engagement

A net promoter survey is conducted every six months to gauge employee satisfaction. The survey asks two simple questions and for employees to score them from 1–10 based on their level of agreement.

The first question is 'Do you enjoy working at this site?' and the second is 'How likely are you to recommend working at SUEZ to a friend or family member?'

Scores of 9 and 10 are deemed to be positively engaged, scores of 7 and 8 are deemed to be neutral and scores of 6 and below are disengaged. It is calculated by subtracting the percentage of disengaged employees from the percentage of engaged employees to give a net promoter score percentage.

The Isle of Man facility has continually performed well in these surveys and this continued in 2023 with the question 'Do you enjoy working at this site?' receiving a score of 54% and 'How likely are you to recommend working at SUEZ to a friend or family member?' 39%.

Our team

SUEZ Isle of Man has a workforce of 33 people. Our capable and committed team, led by Plant Manager Jon Garrad, saw a series of appointments and promotions over the 12 months – with five new starters and five colleagues changing roles within the business.

New members of our team:

- ❖ Ellie Fitzpatrick joined as Cost Control Administrator in June 2023 on leaving Ramsey Grammar School with excellent results. Ellie wants to pursue a career in cost control and business management.
- ❖ Tom Seed became a Shift Operations Technician. Previously working as a team leader, Tom carried out rail installation work at Snaefell and other island locations after a career driving all kinds of vehicles from HGVs and excavators to steam trains.
- ❖ Joe Callow studied engineering and manufacturing at University College Isle of Man. Appointed as Maintenance Technician, Joe has a Level 3 Ordinary National Diploma qualification and a life's experience working on the family farm.

Colleagues who switched jobs:

- ❖ Sammy-Jo Seed left her job as Cost Control Administrator to become a financial analyst for SUEZ recycling and recovery UK, though she remains based at Richmond Hill.
- ❖ Steph Christian is now Operations Apprentice, having been Maintenance Apprentice.
- ❖ John Pearson was promoted to Maintenance Manager, from EC&I Technician.
- ❖ Dean Marchbank became Assistant Maintenance Manager, from a Maintenance Technician.
- ❖ Matty Holmes moved to Shift Operations Technician from his Day Operations role.

Another two members of our team received long service awards. Amanda Garfield, our Administration Manager, and Shift Manager Andy Muir both celebrated 10-year anniversaries with the company.



Our community

As well as providing essential services to the communities we serve, SUEZ has championed the concept of social value as part of its triple bottom line ethos.

Our parent company measures the contribution it makes to society through its beneficial economic, environmental and social impacts. According to its specially commissioned social value calculator, the total annual sum generated was almost £2.6 billion (in 2022, the latest available figure). Based on 88 indicators, the calculator captures benefits ranging from the re-use of discarded household goods and supply chain spending with small and medium-sized enterprises, to charitable donations and benefits in kind, such as volunteering.

Macmillan Cancer Support is our national charity partner for the UK and Isle and Man. The company marked the 10-year anniversary of the partnership in 2023. Over that time, our people have raised more than £550,000 to help fund Macmillan nurses and support centres.

In honour of the anniversary, SUEZ organised its fifth bi-annual 'big event'. Called The Big 10 at 10, the challenge was to generate £101,010 for the charity and as much fun as possible for employees.

Among a host of events, CEO John Scanlon led a group of colleagues on a four-day cycle journey – from the UK head office in Maidenhead to the global HQ in La Défense, Paris – to raise £15,000.

Events on the island included a hog roast, quiz night, rugby sweep stake, cake sale and golf day, raising £2,075.

The company's volunteering scheme – a day a year to volunteer – entered its second year. Every employee is entitled to a paid day off work helping out a good cause. Staff were encouraged to take part in two organised activities. One group spent their day working in the garden at the island's Hospice. The company also donated tools for its upkeep. Another group put in a full shift re-painting the Tommy Clucas Memorial Hall. Their combined efforts were well appreciated.

IN CELEBRATION OF OUR 10-YEAR PARTNERSHIP
WITH MACMILLAN CANCER SUPPORT
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10 AT 10

BETWEEN NOW AND THE END OF THE YEAR,
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June – December 2023

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Our neighbours

We aim to be a good neighbour and are responsive to any complaints about our operations on Richmond Hill.

Members of the public can contact us directly or go through their community representatives or the Department of Environment, Food and Agriculture. Members of the statutory Richmond Consultative Committee can also apply to convene a meeting at any time to raise concerns or request information on our activities. With all complaints, however made, we investigate, report back and make any relevant appropriate and practicable changes that would prevent a recurrence.

In the case of noise, we recommend that complainants contact the facility's control room as soon as possible, so our Shift Manager can investigate any potential source. This was underscored by the one complaint we received during the year via the Environmental Protection Unit. It related to a series of incidents between May 2022 and January 2023 when various types of noise heard in the Middle Park Industrial Estate were alleged to have emanated from the energy-from-waste facility.

Nine of the instances dated from 2022, and most if not all, had already been investigated (and noted in that year's annual public report). Our investigations, including reviews of CCTV footage, ruled out several claims as reversing wagons were not operating at the time or there were no deliveries taking place (on Sundays, for example). However, to minimise any disturbance, we did make significant changes to our processes to avoid or minimise the use of mobile plant at night. We also re-positioned external ammonia alarm sounders. Our vehicles are already fitted with white-noise reversing alarms designed to reduce the distance the sound travels.

Two further complaints, both over industrial-type noise, concerned 26 and 27 January 2023. The facility was offline for maintenance, with most of this work occurring within the building. Any small-scale activity that took place outside, at the rear of the building, would not have caused excessive levels of noise compared with that of our immediate neighbours. In 19 years of operation, we have not received any complaints about such activity.

We provided a detailed response to the Department of Environment, Food and Agriculture and offered to provide any further information and assurances possible to the complainant should they have ongoing or future concerns.

Our visitors

We encourage the island community to make the most of our visitor and education centre. It has proved a useful resource for schools and special interest groups over the years.

Visitors can now go on a virtual 'walk-through' of the facility, viewing the various aspects of operations close-up, following the introduction of touch screens in 2022. It means that people with disabilities and younger children, who are not permitted within the facility itself for safety reasons, can still see and learn about the energy-from-waste process.

We made further improvements in 2023 with a new information board about non-conforming waste and revamped A-frame jigsaw boards to illustrate the role of waste resources in a circular economy. One of our maintenance team also rigged up a bicycle, so school students can have 'a light bulb moment' generating electricity with their pedal power.

Design work began on a new activity table for younger visitors, to be installed in 2024. It will be made from materials we hope to recycle from the renovation of the Queens Pier in Ramsey.

We had a total of 439 visitors and ran 39 tours, including 11 for school or college students and seven for social groups.

In addition, colleagues visited three schools to take part in career information sessions.

From waste to streaming

Education has always been a priority in SUEZ's community outreach activities. Over the years, the company has developed various resources for students, teachers and parents that support the UK's national curriculum.

The latest resource – for Key Stage 2 primary school pupils – is a behind-the-scenes recording at our sister energy-from-waste facility in Bristol's Severnside energy recovery centre.

The '**Waste not, want not**' lesson¹⁸ was developed with STEMLive, which delivers interactive learning experiences in the classroom and valuable teaching resources related to this immersive experience. It gives children the opportunity to explore the world of waste management and green skills while learning about sustainability practices within the industry.

Our communications

Apart from our direct engagement with local groups, authorities and residents, this annual report and the company's website are our main channels of communication with the community.

Website users can view daily emissions, three-month trends and details on electricity generation at www.suez.co.im

For further information about our parent company's activities, energy-from-waste, the circular economy and our research reports, please visit the SUEZ recycling and recovery UK website at www.suez.co.uk

¹⁸ stemlive.co.uk/lessons/waste-not-want-not

Our objectives

Our company sets annual objectives and targets to benchmark our performance in areas such as compliance and efficiency and encourage continuous improvement.

How we did in 2023

Our strategic objectives

Targets set for end of 2023

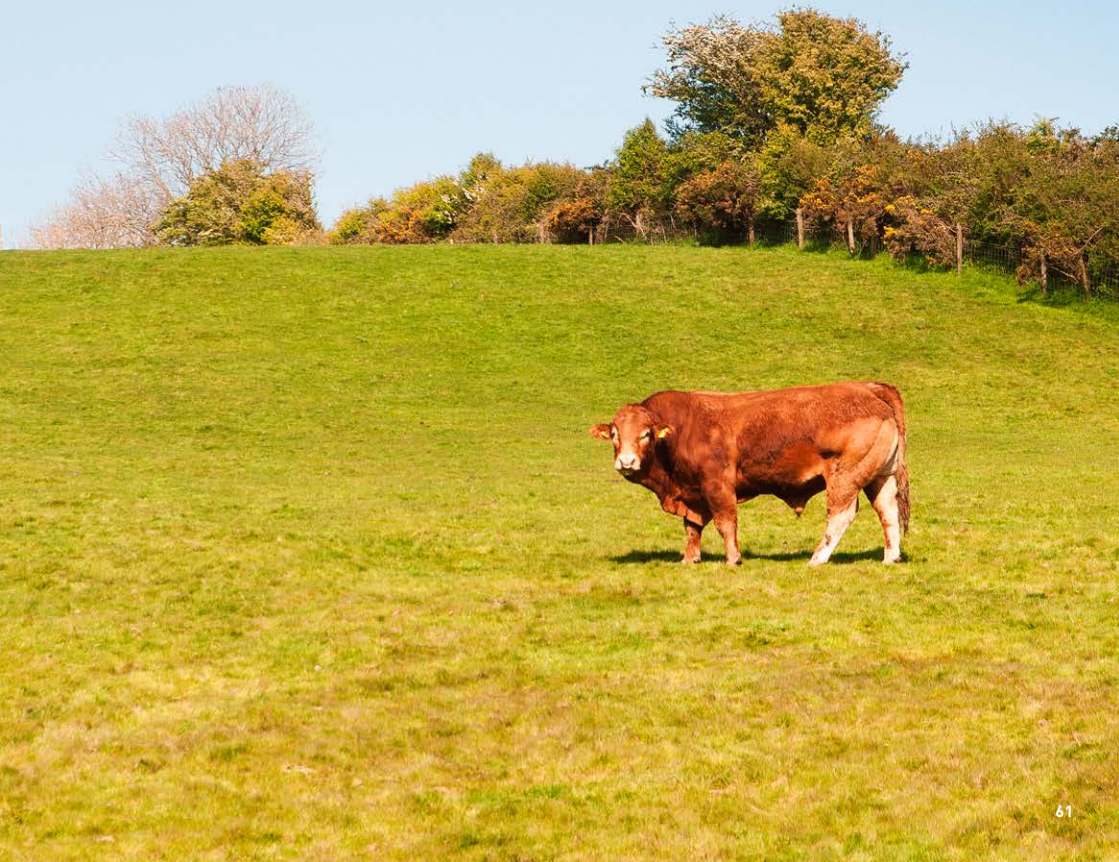
Emergency preparedness	Carry out four emergency preparedness procedures.
Biodiversity	Implement biodiversity action plan, as required.
Hazardous waste	Complete hazardous waste shipments, as required.
Compliance and communication	Conduct safety, health, environment and quality meetings.
Environmental protection and compliance	No daily emission breaches during normal operating conditions.
Oil usage	Reduce oil usage to 2019 level.
Staff competency	Maintain competency matrix.
Management systems	Maintain certification to ISO 14001, ISO 9001, ISO 45001 and ISO 55001.
Reporting	Meet SUEZ internal reporting and carbon monitoring requirements.
Operational efficiency	Meet operational equipment efficiency and preventative maintenance targets.
Continuous improvement	Conduct five continuous improvement projects.

The table shows how we performed against our objectives in 2023, while we set out our targets for 2024 in the following pages. All the data underlying the contents of this report are set out in the tables at the end of this section.

Achieved?	How we performed
✓	12 drills were completed, covering a variety of scenarios from fires and spillages to bomb threats and flooding.
✓	A total of 63 actions were implemented, almost double the 2022 total. Set out in our sustainability and biodiversity action plan, they ranged from switching to bag filters made from recycled materials to car sharing and accreditation to the UNESCO biosphere programme.
✓	Nine loads were shipped off-island for recovery, while another, comprising acids, went for disposal.
✓	A total of 12 meetings were held during the year to discuss compliance and update staff.
✗	There were four exceedances of half-hourly limits for particulates, sulphur dioxide, sulphur dioxide and hydrogen chloride, and one for dioxins during six-hour specific testing.
✗	Oil usage increased in 2023, compared to 2022, by 36,000 litres. Almost 100,000 litres of total consumption was due to a tube leak and failure of the feedstock table's step at the end of the year.
✓	Matrix maintained.
✓	All ISO certifications maintained.
✗	Internal reporting complete, except for CO ₂ emissions. These were calculated for 2022, whereas 2023 calculations have not been finalised, and will be published in the 2024 public annual report.
✓	Operational equipment efficiency target of 61.9% met with 65.14% outcome.
✓	Asset health monitoring (the number of items with no actions identified) target of >90% met with 94.4% outcome.
✗	Asset health compliance target of >90% not met with 88.8% outcome.
✓	Five projects completed, including upgrade of site control system.

Objectives and targets for 2024

Our strategic objectives	Targets set for end of 2023
Emergency preparedness	Carry out 12 emergency preparedness procedures.
Biodiversity	Implement biodiversity action plan, as required.
Hazardous waste management	Complete hazardous waste shipments, as required.
Compliance and communication	Conduct safety, health, environment and quality meetings.
Environmental protection and compliance	No daily emission breaches during normal operating conditions.
Oil usage	Reduce oil usage below 2019 level.
Staff competency	Conduct monthly staff training meetings.
Management systems	Maintain ISO certification.
Reporting	Meet SUEZ internal reporting and carbon monitoring requirements.
Operational efficiency	Meet operational equipment efficiency and preventative maintenance targets.
Continuous improvement	Conduct five continuous improvement projects.



Performance data

All data has been collated from source data for this report. This provides a greater level of accuracy and accounts for slight changes compared to past reports.

Waste delivered

Wastes processed in the primary incinerator (tonnes)

	2019	2020
Confidential	29.7	38.5
Construction	498.7	277.8
Food industry (previously dairy)	5.3	16.5
Municipal	39,442.8	39,808.3
Packaging	1,619.6	865.8
Tyres	615.9	638.6
Waste screenings and biopellets	1,518.2	1,501.1
Wood	5,999.3	5,589.9
Forestry	0	24.4
Meat and bone meal	539.9	568.7
Hygiene waste	95.1	97.1
Clinical waste (excluding sharps and cyto)	-	-
Waste oil and coolant		
Other	69.0	6.6
Total	50,433.3	49,433.2

Wastes incinerated in the secondary incinerator (tonnes)

	2019	2020
Clinical	250.1	284.8
Waste oil	131.2	77.7
Total	381.3	362.5

Exceedances

	2019	2020
Number of exceedances of licence emission limits	7	6

	2021	2022	2023
	43.8	55.1	22.1
	192.5	294.2	239.0
	13.4	10.3	0.5
	41,598.7	41,049.4	40,153.3
	903.0	534.8	376.7
	731.5	621.2	749.8
	1,213.0	1,238	1,286.5
	5,885.6	5,960.4	5,244.2
	0	0	0.0
	510.5	471.7	510.3
	93.1	101.0	100.5
	88.8	273.8	265.6
			38.6
	7.6	158.6	11.7
	51,281.5	50,768.5	48,998.9

	2021	2022	2023
	256.0	56.6	26.4
	82.8	69.6	46.4
	338.8	126.2	72.8

	2021	2022	2023
	7	7	4

Consumption of raw materials

	2019		2020	
	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage
Gas oil (primary)	3.9	190.8	7.0	343.8
Gas oil (secondary)	565.1	141.3	1,260.1	319.1
Water	216	10,775	271.2	10,479
Lime	8.4	416.9	8	382.8
Activated carbon	0.4	19.8	0.5	22.9
Ammonia	0.5	25.3	0.7	32.9

Energy consumption and generation

	2019		2020	
	MWh per tonne of waste	Total MWh	MWh per tonne of waste	Total MWh
Electricity consumed	0.012	598.4	0.018	861.5
Electricity exported	0.505	25,151.0	0.530	25,556.0

Waste recovery and disposal

	2019		2020	
	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage
Bottom ash (landfill)	205.7	10,237.1	205.7	9,926.6
Air pollution control residue (landfill)	34.5	1,717.3	32.1	1,538.7
Ferrous metal (recycled)	3.2	160.4	5.9	286.7

2021		2022		2023	
Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage
8.4	398.9	3.6	184.8	4.5	220.8
1,153.2	308.9	898.0	50.9	915.7	66.7
194.4	9,211	250.0	12,879.0	368	18,064.0
9.6	453.3	9.1	469.1	9.2	453.5
0.5	25.7	0.5	23.5	0.4	21.2
0.6	28.0	0.5	25.6	0.4	21.5

2021		2022		2023	
MWh per tonne of waste	Total MWh	MWh per tonne of waste	Total MWh	MWh per tonne of waste	Total MWh
0.044	2,078.4	0.012	620.7	0.013	650.7
0.426	20,228.0	0.492	25,340.0	0.462	22,647.7

2021		2022		2023	
Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage
206.3	9,799.4	193.9	9,937.0	187.0	9,179.9
33.6	1,587.3	29.0	1,494.3	29.0	1,416.8
9.8	466.8	10.3	528.0	6.7	330.4

Air emissions

	2019		2020	
	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage
Particulate matter	0.003	0.17	0.004	0.18
Volatile organic compounds	0.005	0.25	0.004	0.18
Hydrogen chloride	0.044	2.19	0.044	2.12
Hydrogen fluoride	0.001	0.034	0.000	0.0072
Carbon monoxide	0.047	2.3	0.069	3.31
Sulphur dioxide	0.125	6.2	0.120	5.77
Oxides of nitrogen	1.059	52.3	1.077	51.7
Ammonia	0.00	0.03	0.00	0.03
Cadmium and thallium	5.1×10^{-06}	0.00025	4.8×10^{-06}	0.00023
Mercury	1.8×10^{-06}	0.000087	4×10^{-06}	0.00019
Sb, As, Cr, Co, Cu, Pb, Mn, Ni and V	1.3×10^{-04}	0.0064	6.8×10^{-04}	0.033
PAH	2×10^{-05}	0.00097	2.5×10^{-05}	0.0012
Dioxins and furans	9.1×10^{-11}	4.5×10^{-09}	2.6×10^{-11}	1.3×10^{-09}
Dioxin-like PCBs	7.2×10^{-12}	4×10^{-10}	2.3×10^{-12}	1×10^{-10}

* Tonnes allowed under licence conditions calculated using the waste disposal licence limit, flue flow rate based on actual waste to flue gas ratio and hours the facility can operate in the year (excluding two-week maintenance outage).

Water emissions

	2019		2020	
	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage
Suspended solids*	0.006	0.30	0.006	0.32
Biochemical oxygen demand*	0.0012	0.06	0.0015	0.07
Chemical oxygen demand*	0.005	0.24	0.005	0.26

* Calculated from estimated flow rate.

2021		2022		2023		Tonnes allowed under waste licence*
Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage	
0.002	0.09	0.005	0.26	0.001	0.06	2.5
0.005	0.22	0.004	0.20	0.004	0.18	2.5
0.044	2.09	0.045	2.34	0.032	1.55	2.5
0.005	0.23	0.001	0.07	0.000	0.00	0.0
0.054	2.56	0.056	2.91	0.042	2.06	12.7
0.119	5.61	0.115	5.92	0.110	5.49	12.7
1.133	53.58	1.441	74.21	0.830	40.62	50.8
0.001	0.030	0.001	0.050	0.001	0.040	-
4.9×10^{-06}	0.00023	4.8×10^{-06}	0.00025	4.1×10^{-06}	0.0002	0.01
3.8×10^{-06}	0.00018	5.1×10^{-06}	0.00027	6.9×10^{-06}	0.0003	0.01
2.8×10^{-04}	0.0132	5.3×10^{-04}	0.028	1.1×10^{-04}	0.006	0.13
7.5×10^{-05}	0.00036	7.3×10^{-6}	0.00038	9.0×10^{-6}	0.0004	
7.8×10^{-11}	3.7×10^{-09}	2.5×10^{-10}	1.2×10^{-08}	6.9×10^{-11}	3.4×10^{-09}	
5.9×10^{-12}	3×10^{-10}	4.8×10^{-11}	2.5×10^{-09}	1.1×10^{-11}	5.3×10^{-10}	

2021		2022		2023	
Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage	Kg per tonne of waste	Total tonnage
0.008	0.41	0.004	0.20	0.007	0.32
0.0010	0.06	0.0010	0.05	0.0010	0.04
0.003	0.16	0.004	0.19	0.006	0.29

Glossary

Anaerobic digestion

The process by which organic matter is broken down by bacteria in the absence of oxygen.

Air Pollution Control Residue (APCR)

Particles from combustion gases, heavy metals and dioxins, carbon dust, salt and lime used in the gas-cleaning process, also known as fly-ash.

Biodegradable

Capable of being decomposed by bacteria or other biological means.

Bottom ash

The residue formed on the furnace grate when waste materials are incinerated.

Circular economy

Within a circular economy, the role of resource and waste management is to help prevent waste throughout the whole system, to target materials for harvesting, to manage their logistics in efficient ways, and to treat and return the recovered secondary resources back into the cycle of production and consumption in a compliant and economic manner.

Climate change

The process in which man-made gases are building up in the atmosphere, trapping the sun's heat, causing changes in weather patterns on a global scale.

Deslagger

The system that removes the bottom ash from the incinerator. It comprises a drop-off chute from the final grate, a water filled chamber, a hydraulic pusher and an inclined discharge chute. Also called an ash-extractor.

Dioxins and furans

A large family of compounds – including some of high toxicity – that are by-products of uncontrolled burning, incineration and certain industrial processes, as well as volcanoes and forest fires.

Energy-from-waste (EfW)

The incineration (burning) of waste at high temperatures to reduce its weight, volume and toxicity. The energy from the incineration process is used to generate electricity.

Environment Agency

The UK's waste industry regulator. A non-departmental government public body, set up under the Environment Act 1995 to take an integrated approach to environmental protection and enhancement in England and Wales.

EU Industrial Emissions Directive

Issued by the European Union, the directive commits European Union member states to control and reduce the impact of industrial emissions on the environment. It takes an integrated approach to controlling pollution to air, water and land, and sets challenging industry standards for the most polluting industries. The directive aims to prevent and reduce harmful industrial emissions, while promoting the use of techniques that reduce pollutant emissions and that are energy and resource efficient.

Fly-ash

See Air Pollution Control Residue.

Furans

See dioxins.

Gasification

Gasification is a method for extracting energy from different types of organic material through thermal treatment.

Greenhouse gas

Natural and man-made gases that contribute to the 'greenhouse effect' and climate change, including carbon dioxide, methane, ozone and chlorofluorocarbons (CFCs).

Hazardous waste

Defined by EU legislation as the wastes most harmful to people and the environment.

ISO 14001

The international standard for environmental management.

ISO 9001

The international standard for quality management.

ISO 45001

The international standard for occupational health and safety management.

ISO 55001

The international standard for asset management.

Landfill

The deposit of waste into or onto land in such a way that pollution or harm to the environment is minimised or prevented and, through restoration, reclaims land which may then be used for another purpose.

Landfill Directive

The Landfill Directive (Council Directive 1999/31/EC) aims to prevent, or to reduce as far as possible, the negative environmental effects of landfilling.

Mainsaver

A Computerised Operation and Maintenance Management System (COMMS). Used for the management of maintenance and operational tasks, including scheduling of preventative and planned maintenance activities, asset health recording, electronic shift log, raising and recording work requests and detailed maintenance costs.

Methane

An odourless gas and principal component of natural gas and landfill gas, produced as biodegradable waste breaks down in a landfill site. Over 20 times more potent as a greenhouse gas than carbon dioxide.

Municipal waste

Household waste, as well as other industrial and commercial waste similar in nature or composition, such as wastes collected by a waste collection authority or its agents (i.e. wastes from municipal parks and gardens, beach cleansing, and fly-tipped materials).

MWh

Megawatt-hour, equivalent to one million Watt-hours, and a unit of energy (one Watt is equivalent to one Joule of energy per second).

OHSAS 18001

The international standard for health and safety management.

Recycling

The direct reintroduction of a waste type into the production cycle from which it originates as a total or partial replacement for new material.

RIDDOR

The UK's Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, which require the reporting of work-related accidents, diseases and dangerous occurrences.

Science-based targets

Science-based targets show companies how much they need to reduce their greenhouse gas emissions by, and how quickly, to keep these in line with worldwide reductions required to keep global temperature increase below those outlined in the 2015 Paris Agreement.

VOCs

Volatile organic compounds: carbon-based compounds that easily evaporate into the atmosphere, commonly used in industry for de-greasing, thinning and dissolving, and found in paint, inks and adhesives.

WEEE

Waste electrical and electronic equipment. The WEEE Directive was introduced in the UK in January 2007 and aims to reduce the amount of electrical and electronic equipment being produced, and to encourage re-use, recycling and recovery.

The external verifiers' verdict

"Further to consideration of the documentation, data and information resulting from the organisation's internal procedures examined on a sampling basis during the verification process, it is evident that the environmental policy, programme, management system, review (or audit procedure) and environmental statement meet the requirements of the Isle of Man Government in providing an annual report and reflects the commitment of SUEZ Isle of Man to satisfy and surpass the standards set in the relevant UK and European legislation as well as local laws and regulations."

Signed: 

Date: 16 May 2024

The Sustainable Growth Company Ltd
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