

Waste and pollution

Why is it important?

We have a responsibility to reduce our emissions to air and water and to dispose of our waste carefully – and look for ways to reduce it at source. This will help minimise our environmental impact, prevent the depletion of natural resources, reduce pollution and protect human health and the health of our ecosystems.

Our commitments

We recognise that we need to identify and responsibly manage the environmental impacts and dependencies related to waste and pollution in our entire value chain.

Short-term objective for 2025

- Reduce total waste per tonne by 5% (versus 2022)

Associated policies

Our Environment Policy – [click here](#)

Our Water Management Policy – [click here](#)

Our Risk Management Policy – [click here](#)

Our approach

We are committed to continuously improving our environmental performance, in terms of the waste we produce – and how we manage it – and the pollution that occurs as a result of activities across our entire value chain. As well as meeting all our compliance obligations in different parts of the world, we focus on:

- Minimising the quantity of waste our own operations produce, and increasing how much we reuse and recycle, reducing hazardous waste disposal, and lowering the quantity of waste we send to landfill as much as possible
- Putting systems and controls in place to prevent incidents at our sites that could lead to waste- and pollution-related environmental consequences, and ensure we minimise the potential impact if these incidents occur
- Working with customers and suppliers across the value chain to accelerate the design and introduction of products with increased environmental benefits and fewer hazards over their entire lifecycle
- Implement and continuously improve our operational management systems, which set our environmental standards, and are aligned with our Vision 2030 roadmap targets.

We manage several different types of waste, such as filtered solids from reactor and tank cleaning and waste packaging. We also have one-off waste streams associated with construction and demolition. Some speciality sites manage specific waste streams that are not saleable and require treatment and disposal. Our new adhesives plants manage a relatively high level of hazardous waste that must be incinerated.

Many of our sites also produce permitted levels of emissions to air and water, which are managed by specific regulations aimed at minimising their impact. We are committed to meeting our compliance requirements and driving continuous improvement into our processes as required by our ISO 14001 certified environmental management system.

Our Safety, Health and Environment Management System (SHEMS) and the controls we have in place to keep equipment working efficiently help us reduce the risk of unplanned waste and emissions. For example, we ensure our operational teams understand their role in helping to prevent unexpected releases, including of hazardous chemicals. And we carry out routine inspections and maintenance to address issues before they become a problem.

Our performance in 2024

Our total waste figures this year were affected by one-off waste disposals relating to non-process waste (including more than 1,000 tonnes of demolition-related waste at one of our German sites). As a result, our overall waste generation in 2024 was slightly up on last year, but 19% lower than 2022.

We now have 11 sites (six manufacturing sites, three offices and two technical centres) – representing 22.5% of our production volumes – that send no waste directly to landfill.

Meanwhile, like emissions and water, many of our sites are working on projects to improve the efficiency of our manufacturing processes, which can be a common cause of waste. For example, our site in Jefferson, USA, optimised the way it manages its hazardous waste stream, saving more than \$1.2 million in disposal costs and reducing hazardous waste by more than 1,000 tonnes.

	Unit	2024	2023	2022	2021	2020	2019	Variance 2024 vs 2023	Variance 2024 vs 2019
Group waste management									
Group waste (total)									
Absolute	tonnes	50,382	50,358	62,454	39,708	39,852	49,364	0.0%	2.1%
Specific	kg/tonne production	37.21	36.01	39.83	22.81	22.58	27.19	3.0%	36.4%
Group waste (landfill)									
Absolute	tonnes	12,322	12,772	17,298	9,345	9,487	12,353	-3.4%	-0.2%
Specific	kg/tonne production	9.10	9.13	11.03	5.37	5.38	6.8	-0.3%	33.8%
Group waste (hazardous)									
Absolute	tonnes	28,865	27,367	35,591	22,674	21,402	23,128	5.5%	24.8
Specific	kg/tonne production	21.32	19.57	22.7	13.03	12.13	12.74	8.9%	67.3%
Group waste (non-hazardous)									
Absolute	tonnes	21,517	22,991	26,863	17,034	18,450	26,236	-6.4%	-18.0%
Specific	kg/tonne production	15.89	16.44	17.13	9.79	10.45	14.45	-3.3%	10.0%
Hazardous waste by source									
Recycled - energy recovery		7,020	8,677	10,684	2,931	3,244	3,777	-19.1%	85.9%

								Variance 2024 vs 2023	Variance 2024 vs 2019
	Unit	2024	2023	2022	2021	2020	2019		
Recycled – separated – reprocessed		9,548	7,222	7,914	5,065	6,418	5,959	32.2%	60.2%
Incinerated – no energy recovery		3,681	4,126	5,392	2,738	1,611	1,430	-10.8%	157.4%
Disposed by landfill		1,876	1,565	2,755	3,235	2,276	1,643	19.9%	14.2%
Other		6,740	5,777	8,845	10,141	8,567	11,100	167%	-39.3%
Non-hazardous waste by source									
Recycled – energy recovery		3,292	3,232	3,714	4,278	4,475	8,176	1.9%	-59.7%
Recycled – separated – reprocessed		3,879	3,006	3,503	2,836	2,377	2,275	29.0%	70.5%
Incinerated – no energy recovery		87	75	124	22.31	17.03	186	16.0%	-53.2%
Disposed by landfill		10,447	11,206	14,544	8,011	8,170	11,808	-6.8%	-11.5%
Other		3,813	5,471	4,977	1,887	3,411	3,791	-30.3%	0.6%
Sites that are zero production waste to landfill									
Number		11	10	n/a	n/a	n/a	n/a	n/a	n/a
Proportion of Group revenue		17.0	26.5	n/a	n/a	n/a	n/a	n/a	
Proportion of Group production volume		22.5	36	n/a	n/a	n/a	n/a	n/a	n/a
Other emissions to air									
Other emissions to air – absolute									
Sulphur dioxide (SO ₂)	tonnes	23.42	14.08	44.61	122.13	132.24	126.28	66.3%	-81.5%
Nitrous oxides (NO _x)	tonnes	195.16	162.92	164.89	230.67	229.51	201.98	19.8%	-3.4%
Particulate matter (PM)	tonnes	48.53	24.68	29.66	n/a	n/a	n/a	96.6%	n/a
Volatile organic compounds (VOCs)	tonnes	475.56	298.67	529.78	268.08	246.79	231.34	59.2%	105.6%
Other emissions to air – specific									
Sulphur dioxide (SO ₂)	kg/tonne production	0.02	0.01	0.03	0.07	0.08	0.07	70.0%	-75.7%
Nitrous oxides (NO _x)	kg/tonne production	0.14	0.12	0.11	0.13	0.13	0.11	22.4%	27.9%
Particulate matter (PM)	kg/tonne production	0.04	0.02	0.02	n/a	n/a	n/a	94.4%	n/a
Volatile organic compounds (VOCs)	kg/tonne production	0.35	0.21	0.34	0.15	0.14	0.13	62.1%	173.2%
Manufacturing effectiveness									
Right first-time rate	%	98	98.5	98	97.4				

Our next steps

Through our Manufacturing Excellence programme, all sites will develop emissions and waste improvement plans and demonstrate good waste management practice, as we expect from our environmental policy.

Alongside work to reduce waste generated at our sites, we continue to focus on product quality, right-first-time production and stock management to help drive underlying improvements.