

ENVIRONMENT

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Environment

A HEALTHY FUTURE FOR PEOPLE AND THE ENVIRONMENT

As a healthcare company, we are committed to the well-being of people. Consequently, we want to help preserve the fundamentals necessary for life and protect the environment. At the same time, we know that Fresenius Kabi's business activities exert significant impacts on the environment. That's why we are striving to reduce greenhouse gas emissions and waste, promote the efficient use of resources, invest in environmentally friendly technologies, and introduce more sustainable practices.

OUR ENVIRONMENTAL MANAGEMENT

We are continually assessing and identifying potential risks to minimize the impacts of our activities on the environment, and we carry out relevant measures to meet our goals. This process focuses on the fields of action we have defined.

FIELDS OF ACTION FOR OUR ENVIRONMENTAL MANAGEMENT

ENERGY AND EMISSIONS

Our energy management system primarily focuses on improving energy efficiency, as well as the procurement and company-owned generation of renewable energy. Read more [here](#).

WATER AND WASTEWATER

Our water management measures reduce the volumes of our water and wastewater. We also monitor the water quality and the approved withdrawal and discharge of wastewater to increase our water use efficiency. Read more [here](#).

WASTE AND RECYCLING

When it comes to waste and recycling, we tackle our measures with the following priorities: avoid, reuse, recycle, recover, and remove. Read more [here](#).

Environment

Fresenius Kabi's environmental management adheres to global [environmental guidelines](#). These provide the framework for environmental protection in all of its organizations. The guidelines include general principles for managing and mitigating environmental risks, as well as preventing environmental pollution. We also expect our suppliers to treat nature and its resources carefully and responsibly, as defined in the [Third-Party Code of Conduct](#).

Fresenius Kabi also uses an environmental management system in accordance with the international standard ISO 14001 and an energy management system in accordance with ISO 50001, in order to improve environmental and energy performance. The management system focuses on reducing energy and water consumption, as well as wastewater, waste, and emissions – depending on the total production amount.

OUR GOAL FOR ENVIRONMENTAL MANAGEMENT

Up to 2026, the environmental management system (ISO 14001) will be progressively introduced at all of Fresenius Kabi's production sites throughout the world. In 2023, 84% of our sites were already certified in accordance with ISO 14001.¹

IN CAPABLE HANDS: ORGANIZATION AND RESPONSIBILITIES

Environmental management at Fresenius Kabi is organized according to a centralized model. The Global EHS (Environment, Health, and Safety) department is responsible for its implementation. We have established functions within this structure that monitor our relevant environmental impacts and plan measures to improve. More information is provided in the EHS Management chart.

The global functions and top management define Group-wide environmental targets, develop suitable standard procedures, and support our certified local units by implementing and monitoring the management systems. The local production units define concrete and effective targets, implement appropriate measures, and monitor their effectiveness.

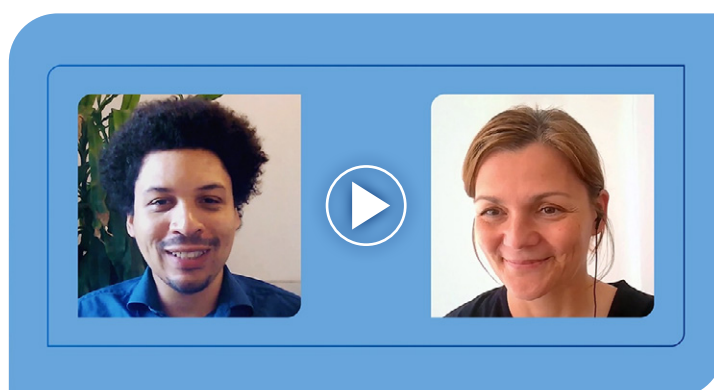
¹ On the date of publication, ISO 14001 had already been implemented at 94% of the sites. Certification of the remaining 10% is currently being implemented.

Environment

EHS MANAGEMENT

Main tasks and responsibilities

Environment, Health and Safety	Energy	Occupational, Health and Safety
ISO 14001	ISO 50001	ISO 45001
Worldwide maintenance and rollout of ISO 14001 at all PU's till latest 2026 – covering implementation, support, audits, global documents, templates and education • Improvement of waste and waste recycling rates • Improvement of water consumption and wastewater 	Worldwide maintenance and rollout of ISO 50001 at all PU's till latest 2026 – covering implementation, support, audits, global documents, templates and education • Improvement of energy & GHG performance 	Worldwide maintenance and rollout of ISO 45001 at all PU's till latest 2023 – covering implementation, support, audits, global documents, templates and education • Accident Reduction & Prevention 
CSR, ESG and other topics		
ESG: • Reporting of all environmental, energy and occupational (LTIFR) data – CSR, Taxonomy, ESG and internal reports • Participation in FSE Climate Working Group, ESG WG, CSR WG Others: • Sustainability data in Resource Advisor according GRI Protocol for Non-financial reports, EOHs reports, Q reports and future ESG targets • Tender support for all Market Units • AMR IA Manufacturing Framework / Standard • Human Rights Due Diligence – own operations		



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BEST PRACTICE EXCHANGE FOR ENERGY, WATER, AND WASTE MANAGEMENT

The Global Competence Cluster Energy, Water & Waste Management was established in 2019 alongside existing management systems. The objective is to offer experts from all our production sites a platform where they are able to share innovative ideas and proposals for enhancing efficiency in the defined categories and work together on solutions. The GCC promotes innovations and provides resources for their implementation. As a highlight, the best ideas for implementation are awarded prizes by the global EHS team and members of the Executive Leadership Team as part of the annual Championship Day. In addition to the exchange of experts, the GCC offers other interested employees the opportunity to participate, e.g. through awareness days and topic-related events, in order to learn from each other and further increase awareness of the topics.

**Championship
Day**

**Act today for a
better tomorrow**
Submit now!



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OUR APPROACH TO ENERGY AND EMISSIONS

Rising temperatures and more frequent extreme weather events as a result of climate change pose a threat to our earth's ecosystems. At the same time, economic stability can be shaken by the associated damage to infrastructure, and increase insurance costs. At Fresenius Kabi, we want to fight against this trend and make our contribution to a healthy world through our commitment to climate protection.

OUR ENERGY MANAGEMENT: HOW WE IMPLEMENT OUR COMMITMENT TO CLIMATE PROTECTION

Fresenius Kabi operates on the global stage with 50 production sites and more than 42,000 employees. Consequently, we have to observe a large volume of statutory framework conditions relating to the environment. Even beyond these, we are always looking for ways to minimize our impact on the climate. We also implement our management approaches in line with this trajectory.

OUR FOCUS TOPICS FOR 2023

- Energy saving and efficiency
- Procurement and company-owned generation of renewable energy
- Reduction of CO₂ emissions

Environment

MANAGEMENT SYSTEMS WITH CERTIFICATION

Improving efficiency and avoiding unnecessary consumption – this is the focus of our energy management system. In 2023, the system was certified in accordance with the standard ISO 50001 at 30 sites. We want to expand the number of certified sites to 100% by the end of 2026.

UNITS CERTIFIED IN ACCORDANCE WITH ISO 50001¹

ISO 50001, in %	2022 ²	2023 ²	Goal 2026
Market segment Healthcare products/Fresenius Kabi	53	74	100%

1 Units are included for which environmental data are consolidated.

2 The coverage is based on the units that have already been certified or that are to be certified in future, depending on the applicable standards or regulations. The provision of the certificates by the relevant certification company can extend into the following year.

GREENHOUSE GAS EMISSIONS: CLIMATE NEUTRALITY BY 2040

The Fresenius Group has set a target of achieving climate neutrality in Scopes 1 and 2 by 2040. We plan to achieve this primarily by implementing reduction measures, and offsetting any remaining greenhouse gas emissions. The first step towards achieving this goal is to reduce all [Scope 1 and Scope 2 emissions](#) by 50% in absolute terms by 2030 (base year: 2020).

Fresenius Kabi intends to contribute to our Group target particularly by utilizing renewable energies and energy efficiency measures. In 2023, we were able to reduce our Scope 1 and Scope 2 emissions by 24% in comparison with the previous year.

GREENHOUSE GAS EMISSIONS SCOPE 1 AND 2 (MARKET-BASED APPROACH)

in thousand t CO ₂ equivalents	2023	2022	2021	2020
Fresenius Kabi	324	425	416	396
Scope 1	168	169	172	160
Scope 2	155	256	243	237

In 2023, Fresenius carried out work on the systematic recording and evaluation of the Group-wide Scope 3 emissions in accordance with the Greenhouse Gas Protocol Scope 3 Accounting and Reporting Standard, and is publishing these statistics for the first time in this [report](#). Fresenius Kabi will provide a more detailed report on its Scope 3 emissions for the first time in 2024.

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EXPANSION OF RENEWABLE ENERGIES

In 2023, Fresenius Kabi purchased electricity generated from renewable energies for seven of its production facilities. This switch to renewable/CO₂ neutral energy at all our production sites is intended to bring about an annual reduction of 6% in our Scope 1 and Scope 2 emissions, and also contributed to our 2023 reduction target. Furthermore, we already operate photovoltaic systems at nine production facilities, and three additional installations were approved for operation in 2023. They will go live on the grid in 2024.

SOLAR ENERGY FOR MEDTECH PRODUCTION

This form of power is an important pillar for greater sustainability: solar energy. In 2022, we started up three new power stations at our production facilities in Guangzhou (China), Haina (Dominican Republic) and San Germán (Puerto Rico). The combined output of these power plants generates around 5,600,000 KWh of energy each year for the production of MedTech products – as much electricity as about 2,000 average two-person households consume over the same period.



RELATED LINKS

[Interactive Tool](#)

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WATER MANAGEMENT AT FRESENIUS KABI

Periods of drought, flooding, and diseases caused by contaminated water – water risks are one of the most urgent global challenges. As a healthcare company operating across the world, we want to be part of the solution. Water management promoting conservation of resources is therefore a top priority for us.

EVERY DROP IS VALUABLE: THE FACTS AROUND OUR APPROACH TO WATER

Our objective is to use the vitally important resource of water responsibly. This is why we closely monitor the quantities we consume through our business activities. The absolute volume of water that we withdrew and used in the course of our business activities during 2023 amounted to 9.9 million m³.

WHERE DOES 9.9 MILLION M³ OF WATER FLOW TO? WATER USAGE AND WITHDRAWAL

In the areas of clinical nutrition, intravenously administered drugs, infusions, and biopharmaceuticals, it is vital for patients that the purity of the products is guaranteed and the cold chain is maintained. Some of the water we use is to produce steam for sterilization, and water-based cooling and cleaning processes. However, sterile water is highly purified and it is an essential component in the manufacture of medical products, and medicines. Sterile water used for purposes like infusion and rinsing solutions such as sodium chloride must meet stringent quality requirements to ensure product quality and patient safety.

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HOW WE IDENTIFY WATER RISKS AND DEAL WITH THEM

Like most manufacturing companies, Fresenius Kabi is dependent on water as a raw material in its production processes. But clean water is in increasingly short supply throughout the world.

We therefore make it a priority to precisely assess the [water risks](#) present at our various production sites. Fresenius-Kabi uses the [Aqueduct Water Risk Atlas of the World Resources Institute \(WRI\)](#) to analyze the availability of water at specific locations.

AQUEDUCT WATER RISK ATLAS OF THE WORLD RESOURCES INSTITUTE (WRI)

In collaboration with companies, governments, and research partners, the institute set out to drive forward proven procedures for managing water resources, and facilitating sustainable growth in a world beset by water shortages.

The tool allows us to access publicly available peer-reviewed data to map water risks such as floods, droughts and water stress¹. This gives us information about the current and future water risks at our locations.

All our production sites carry out a climate risk assessment. This includes water risks like flooding, droughts, and heavy rainfall, and the sites must take appropriate measures if a risk is identified.

OUR MEASURES FOR REDUCTION OF WATER CONSUMPTION

A number of different approaches have been adopted to reduce our water consumption. At some production sites, we use water a number of times, e.g. through the use of steam condensate recovery systems at our sites.

In 2023, we launched several projects at the production sites directed toward saving water. One example is the objective of using water more sustainably in wastewater treatment systems and recycling programs. In addition, we optimized the cleaning and sterilization processes at several sites.

¹ Currently we are assessing water stress.

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OUR APPROACH TO REDUCING WATER CONSUMPTION AT OUR SITES



Beijing, China: Water recycling during coating

The coating of tablets is common practice for pharmaceuticals, for example to control the time and amount for the release of active ingredients. This process also uses solvents that release organic gases.

These gases have to be absorbed by spray water in scrubbers. At our production site in Beijing, around 35% of the water consumption is for operation of these scrubbers. In order to reduce our water consumption, we have introduced an innovative recycling process. After water has been used repeatedly, quartz sand and activated carbon are used to filter and disinfect this water so that we can feed it back to the scrubbers. This means that we save an estimated 14,000 m³ each year at our Chinese location.

At the production site we have also adjusted the frequency of changing the pure water required for steam sterilization. By replacing the water every two days (previously once a day), we have been able to reduce annual consumption from 225 m³ to 147 m³.

Zapopan, Mexico: Water savings with a purification procedure

At our Zapopan site, we replaced the static spray balls used to clean solvent containers with dynamic nozzles. The design and mode of operation of the newly launched model enable us to clean the interior tank surface more efficiently. This empowers us to reduce the rinsing water by half for each cleaning cycle and save 300 liters of water with each process.



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Friedberg, Hessen: Treatment of demineralized water

Conventional minerals (salts) are removed from fully demineralized water (DI water). This is an important resource for the production of pharmaceutical substances. Reverse osmosis systems are used at our

production facility in Friedberg to produce demineralized water from municipal water. A concentrate results from the process that consists of water with an increased salt content (10 m³/h). An additional reverse osmosis system enables us to reprocess 40% of the concentrate using a new purification stage, and return it to the input stage of the water treatment system. The returned water has a higher quality than the municipal water. As a result, we are able to cut our consumption by more than 35,000 m³ of water a year and reduce our waste-water volume.

KEEPING THE WATER CLEAN: OUR WASTEWATER MANAGEMENT

Wastewater from industrial production processes can impact the water quality of rivers and springs. In order to prevent this and not put the water quality at risk, we discharge water decentrally at the locations in accordance with applicable local regulations. Production units regularly report wastewater volumes within production to the responsible EHS (Environmental, Health, and Safety) department in accordance with internal standards and guidelines.

RISK OF ANTIBIOTIC RESISTANCES – MEASURES TO PRESERVE WATER QUALITY

Antibiotics belong in people, not in the environment. Nevertheless, drugs can enter the environment through wastewater discharges, and cause antibiotic-resistant bacteria to develop. The consequences can be fatal, if medical treatments lose their efficacy as a result.

To counter this risk, we have been a member of the [Antimicrobial Resistance \(AMR\) Industry Alliance \(AMRIA\)](#) since 2020, and we have been playing an active role in the management bodies of the alliance since 2021. Furthermore, we have been working on the introduction of the [Common Antibiotic Manufacturing Framework \(CAMF\)](#) of AMRIA.

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You can find more on this in the Fresenius online Annual Report 2023 in the section [water management](#).

In 2022, AMRIA and BSI Standards Limited released the [Antibiotic Manufacturing Standard](#), providing guidance to the manufacturers on responsible antibiotic production.

The standard complements the environmental and safety management at our production sites. A pivotal component of the approach involves the use of a risk-based methodology to evaluate and control the aquatic waste and water streams generated during antibiotic production – and communication about this at the corporate level.

THE MASS BALANCE APPROACH

We began implementation of the Antibiotic Manufacturing Standard already in 2022. The focus was on introducing a methodology for the quantification of the mass balance. The template is intended to assist antibiotic manufacturing sites in determining antibiotic concentrations in wastewater discharge from production and in conducting gap analyses. Furthermore, we established a dedicated communication channel to connect local sites together and with the global EHS team. This initiative fosters continuous exchange between the production sites and the global EHS Team to promote the introduction and compliance with the Antibiotic Manufacturing Standard requirements.



RELATED LINKS

[ESG KPI Overview 2023](#)

[Interactive Tool](#)

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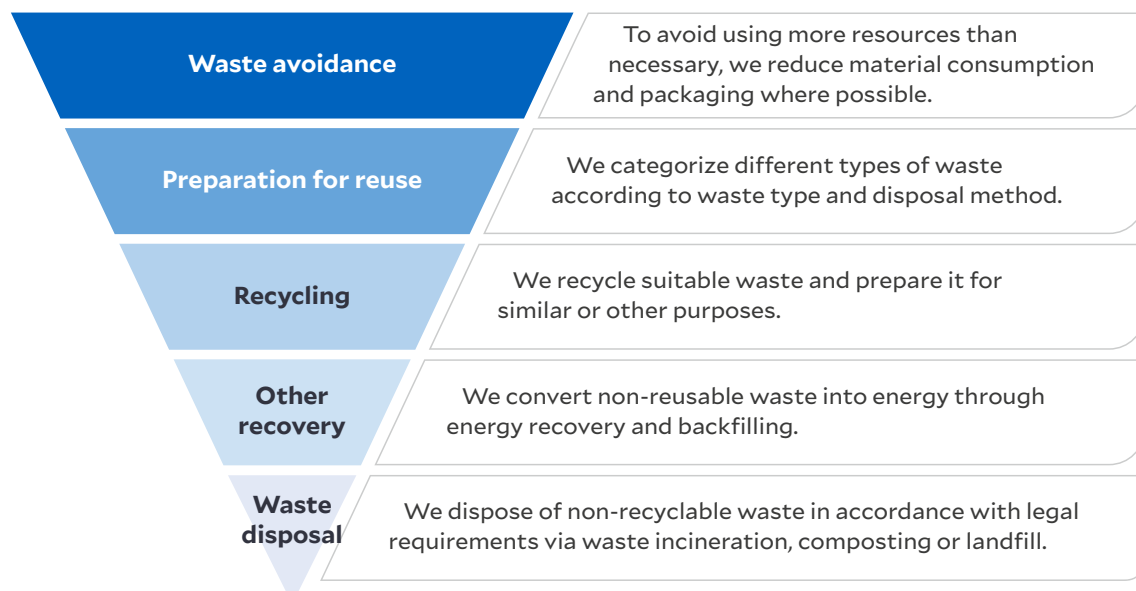
AVOID, REUSE, RECYCLE: WASTE MANAGEMENT AND RECYCLING AT FRESENIUS KABI

According to reports by the World Health Organization, around 15% of the waste generated by the healthcare sector are hazardous materials that can negatively impact the environment if they are not properly disposed of. A responsible, safe approach to waste and resources is therefore a top priority for Fresenius Kabi.

MORE THAN WASTE: HOW WE MANAGE WASTE – AND CONSERVE RESOURCES

A key target of our waste management is to protect valuable resources. By handling waste carefully, we are able to conserve resources and reuse them in the production process. As a consequence, our focus is on recycling waste and utilize properly, as well as on avoiding waste in the first place. The waste generated at Fresenius Kabi is mainly in the form of a byproduct from manufacturing processes or in the downstream value chain as packaging material from product containers in hospitals, private households, and nursing homes. The waste is treated consistently in accordance with the legal regulations and we adopt independent initiatives to close the recycling loops.

We have defined the following sequence for waste management:



Environment

RESPONSIBILITY FOR PEOPLE AND ENVIRONMENT: OUR APPROACH TO WASTE

Local EHS (Environment, Health, and Safety) managers or special waste managers are generally responsible for waste management at the Fresenius Kabi production sites.

At Fresenius Kabi, we record waste volumes generated at our production sites, logistics centers, **① compounding centers**, and other ISO 14001-certified organizations. We categorize the waste according to waste type and disposal method. Plastic waste represents the largest proportion of non-hazardous waste. Hazardous waste is avoided wherever possible and unavoidable waste is disposed of properly and verifiably.

WASTE MANAGEMENT AT OUR LOCATIONS

Villadose, Italy: Reusable workwear

At our Villadose site, we have significantly reduced the number of disposable suits used in production departments. We have replaced disposable clothing with reusable, sterilized clothing. This measure has reduced the amount of waste by around 1,300 kg each year.



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Aquiraz, Brazil: Utilization of filter capacities and reuse of pallets

An evaluation of the utilization of filters at our site in Aquiraz was carried out, which revealed potential savings of approximately 250 kg/year for hazardous waste. Filtration reduces the biological burden of

parenteral nutrient solutions and is therefore mandatory. Our analysis demonstrated that the site was using the filters below their rated capacity, and hence generating additional costs and waste. Additionally, there was evidence that the maximum retention time of the filters in the process could be increased without affecting the quality of the product.

We have also introduced a measure to reuse wooden pallets for finished products. Instead of selling the pallets for recycling, we now sort them out and put them through a heat treatment process to ensure the required hygiene standards. As an effect, we were able to bring down the amount of wood required by 188 tons. Deducting the costs of the treatment and the lost sales revenues, this produced savings of BRL 410,000 (around €73,000) a year.