

ENVIRONMENTAL SUSTAINABILITY

EXECUTIVE SUMMARY

At EUROAPI, we recognize that environmental issues can result in profound societal and public health impacts, and that climate change has emerged as one of the greatest, if not the greatest, challenges of our times.

The protection of the environment is crucially important for determining our common long-term environmental and sustainability outlook. Indeed, climate change and the scarcity of natural vital resources are at stake, as well as all their consequences on the population and biodiversity of our planet.

As a key player in the pharmaceutical medicine value chain, EUROAPI takes its responsibility seriously and our environmental approach is at the heart of the Group's strategy. It is fully integrated into the Group's Environment Social and Governance (ESG) priorities and outlined in our [ESG Roadmap](#).

EUROAPI's environmental sustainability priorities are therefore focused on responsible innovation, GHG emissions reduction, conservation of resources (especially water stewardship, improving energy efficiency and use of cleaner sources of energy), the reduction of waste arising from our operations and on the responsible management of our products.

Our priorities in the medium term include achieving incremental improvements in CO₂ emissions, waste management, and water and energy consumption through dedicated programs to enhance and upgrade existing processes. As an example, we have invested in a state-of-the-art [biomass boiler](#) for our industrial facility at Saint-Aubin-lès-Elbeuf (France). This boiler will replace an existing gas-powered boiler and is estimated to reduce CO₂ equivalent (CO₂e) emissions by nearly 76%.

Looking ahead, our long-term priority is to improve the process of producing active pharmaceutical ingredients and associated environmental footprint through relevant programs, partnerships and investments. We believe that having this twofold approach is essential for addressing environmental, physical and transformation risks and for achieving sustainable growth.

With a 20% reduction between 2020 and 2022 of its scope 1 and 2 greenhouse gas emissions, the Group is on the right track to meet its 30% reduction target by 2030. Energy efficiency has also improved with a 9% reduction in total energy consumption in 2022 versus 2020. In 2022, 87% of the electricity consumed in the Group's industrial facilities was from renewable sources, and the objective of using 100% electricity derived from renewable sources at all our industrial facilities by 2025 is within reach. Total waste produced in 2022 at the Group's industrial sites was reduced by 3% versus 2020. Water management has also been optimized: total water withdrawal (groundwater, surface water, public supply etc.) has been reduced by 16% between 2020 and 2022, and approximately 25% of the water consumed at the Group's sites over that period was

recycled or reused water. The rate of solvent recycling (quantity of solvents recycled as a percentage of total solvents consumed) has been between 64 and 68% over the last two years.

EUROAPI is proud to have joined the [United Nations Global Compact](#) (UNGC), a voluntary leadership platform for the development, implementation and disclosure of responsible business practices. As a signatory, we are committed to aligning our operations and strategy with the 10 principles of the UNGC, including principles [7](#), [8](#), and [9](#) concerning environmental protection. In addition, we support UN Sustainable Development Goals (SDGs) with an environmental focus, in particular SDG 9 (Industry, Innovation and Infrastructure) and SDG 12 (Responsible Consumption and Production).

EUROAPI has also signed the [Responsible Care](#)® Global Charter, the global chemical industry's unifying commitment to the safe management of chemicals throughout their life cycle, while promoting their role in improving quality of life and contributing to sustainable development.

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1. BACKGROUND

Environmental sustainability has been defined by the United Nations as “*meeting the needs of the present without compromising the ability of future generations to meet their own needs.*”¹

As a responsible company, we believe we must do our best to preserve natural resources and to protect global ecosystems in order to support health and wellbeing, now and in the future.

Climate change poses significant risks to society, including extreme weather events, food shortages, increased air pollution and difficulties in accessing drinking water, as well as creating favorable conditions for the spread of vector-borne diseases such as malaria.

According to the World Health Organization (WHO), “*climate change is the single biggest health threat facing humanity*” with an estimated 250,000 additional deaths predicted each year between 2030 and 2050.² In order to limit the consequences of global warming, the United Nations presents carbon neutrality as the solution to counterbalance the buildup of greenhouse gas emissions in our atmosphere.

EUROAPI recognizes that reversing the use of natural resources, the degradation of ecosystems and the disruption of the environmental systems that support human life is critical for the benefit of current and future generations. Therefore, we believe that an increased focus on environmental sustainability is key for the future of our planet.

2. ENVIRONMENTAL GOALS

As a responsible business specialized in the manufacture of active pharmaceutical ingredients, our environmental approach aims at limiting the direct and indirect impacts of our activities on the environment.

The reduction of our environmental footprint and the actions we take in favor of the climate are part of EUROAPI’s responsible industrial commitment. The company will thus evolve its industrial practices, with the objective of reducing waste and emissions, optimizing energy and water consumption and promoting greener chemistry.

To achieve this, our first ambition is that all our sites obtain ISO 14001 and ISO 50001 certifications by 2023. Similarly, we are aiming for all our sites to be PSCI audited by 2023. These standards provide a robust framework enabling the company to improve its environmental and energy practices.

EUROAPI has defined short-term (2025-2030) as well as long-term (2050) environmental sustainability objectives with associated action plans.

Some of our key environmental sustainability commitments are:

- 100% of our sites’ electricity will come from renewable sources by 2025.
- We will reduce our scope 1 and 2 CO₂ emissions by 30% by 2030 (compared to 2020).
- We intend to reach net zero carbon emissions by 2050.

¹ United Nations – Academic Impact – <https://www.un.org/en/academic-impact/sustainability> - Accessed on 22/03/23

² World Health Organization – Climate Change and Health – 30 Oct 2021- <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health> - Accessed on 22/03/23

3. ENVIRONMENTAL STRATEGY AND ACHIEVEMENTS TO DATE

3.1. Accelerating responsible innovation

EUROAPI's ability to provide clients and patients with adapted active ingredient health solutions is driven by its capacity for innovation. The Group believes that responsible innovation will be critical going forward, leading to sustainable growth and allowing us to achieve our environmental objectives, including those related to carbon emissions, natural resource consumption and waste management.

Sustainable innovation at the Group is focused on making research, development, and industrial chemical processes safer and cleaner, and on giving more consideration to energy consumption while continuing to generate economic benefits. It is driven by improved chemical-process efficiency and economics, based on the 12 well-defined "principles of green chemistry"³

With a long history in active pharmaceutical ingredient (API) manufacturing, the Group's R&D department, led by the Chief Research and Development Officer, is committed to improving its manufacturing processes and technologies in order to minimize the Group's impact on the environment. Governance for the Responsible Innovation Program will be defined in 2023.

This will involve two main approaches:

- A continuous improvement process program for its commercial products: the purpose of this annual program is to assess and improve the environmental impact and sustainability of API manufacturing processes. New technologies such as data science and online Process Analytical Technology (PAT) support these improvements by allowing faster and more efficient data acquisition, improving yield and shortening the development lead time of processes, contributing to a better environmental impact. The program involves around 12% of the R&D team.
- Dedicated innovation projects within the Group which specifically target improving the sustainability of existing technologies and developing new sustainable technologies that are applicable to its market. These projects involve around 6% of the R&D team. On-site examples include:
 - A. Flow chemistry (continuous chemistry) at the Haverhill site that produces SEVELAMER, the largest marketed API with continuous chemistry. It is more energy efficient and reinforces real time analysis for pollution prevention. Flow chemistry reduces hazardous waste generation and promotes environmentally benign chemistry with utilization of benign solvents and reagents.
 - B. Biochemistry intensification at two of its fermentation sites (Brindisi, Italy and Saint Aubin-lès-Elbeuf, France). Biotechnology requires fewer chemical steps thanks to processes based on fermentation with micro-organisms for the synthesis of active molecules. For example, the Group is actively working on vitamin B12 process improvement to significantly boost fermentation productivity, reduce water consumption and decrease the number of technical operations.
 - C. Development of biocatalysis to reduce environmental impact and to improve the economics of small molecules synthesis at the Group's Budapest site (Hungary).

³ 12 Principles of Green Chemistry - ACS Green Chemistry Institute®: <http://www.acs.org/content/acs/en/greenchemistry/what-is-green-chemistry/principles/12-principles-of-green-chemistry.html>

- D. The Group has several ongoing productivity optimization projects designed to reduce the environmental impact of its processes. In particular, in the area of solid phase peptide synthesis, where, through a combination of a better understanding of the chemistry, improved engineering and PAT advances, we can drastically improve our environmental footprint.

Next steps

EUROAPI will start measuring Process Mass Intensity (PMI) for new projects to track its environmental performance upstream and implement these criteria on a routine basis. PMI is a key, high-level metric for evaluating and benchmarking progress towards more sustainable manufacturing.

The Group also collaborates with external scientists in the search for breakthrough technologies to improve its environmental footprint via more effective and greener processes, including synthetic biology, state-of-the-art separation processes, catalysis, process intensification and new modes of generating solid-form active ingredients.

3.2. Minimizing the Group's environmental impact

API manufacturing is energy intensive, and it involves numerous stages that often require extremely low or high temperatures, and compounds of a petrochemical or mineral nature. Various raw materials required in the production phases must be sourced from overseas and shipped to the Group's manufacturing facilities in Europe.

Furthermore, EUROAPI operates in a restrictive legislative and regulatory environment with respect to environmental protection, public health and safety.

As part of its responsible industrial commitment, EUROAPI is stepping up efforts to drive constant improvement in its industrial practices, using all available means to limit direct and indirect impacts of its activities on the environment, to optimize energy and water consumption and to reduce waste and emissions. The Group's environmental objectives and associated strategies form an integral part of a global HSE Policy available on its website. The HSE Policy establishes the framework for HSE management across all operations and covers the Group's environmental commitments regarding energy, water, waste, and emissions.

Within our HSE Department, which reports to our Chief Operating Officer, there is a dedicated team under the responsibility of the Head of HSE, which coordinates energy, water, waste and emissions management and responsible consumption programs, as well as related initiatives across all operations. These initiatives form an integral part of the Group's global HSE Policy and of our Environmental Sustainability priorities which are available on our website. The Head of HSE is in charge of the Group's environmental strategy and of overseeing the implementation and management of all related programs. Measurement and monitoring of environmental indicators is managed at site level by HSE Site Managers.

Environmental metrics and performance are reported and reviewed regularly by the Board of Directors' ESG Committee.

As a first step towards optimizing energy and water consumption and reducing waste and emissions, the Group is pursuing both ISO 14001 (environmental management systems) and ISO 50001 (energy management systems) certification for each of its manufacturing sites. This will ensure that best practices are in place for the management of energy, water, waste and emissions.

In 2022, our site at Haverhill was ISO 14001-certified, bringing our total number of manufacturing sites which are ISO 14001-certified to six. With ISO 50001 certification in progress for the

Haverhill, Vertolaye and Brindisi facilities, the Group is on track to meeting its target of 100% of sites ISO 14001 and ISO 50001-certified by the end of 2023.

		ISO 14001 Environmental Management	ISO 50001 Energy Management
 Vertolaye		 Since 2000	 By 2023
 Elbeuf		 Since 2022	 Since 2017
 Frankfurt		 Since 1999	 Since 2012
 Ujpest		 Since 2006	 Since 2016
 Brindisi		 Since 1999	 By 2023
 Haverhill		 Since 2022	 By 2023

 Seveso site annually inspected by local authorities

3.3. Fighting climate change

EUROAPI believes that companies have a crucial role to play in the face of the current climate emergency and that we have a responsibility to take immediate action. The Group has set a new strategic environmental objective to reduce greenhouse gas (GHG) emissions from its business operations, with several programs to reduce CO₂ emissions at selected sites.

The Group has set the ambitious target of reducing both direct CO₂ emissions from owned or controlled operations (scope 1) and indirect CO₂ emissions associated with the purchase and use of electricity, steam, heat or cooling (scope 2) by 30% by 2030, compared to 2020.

EUROAPI’s objective is to achieve carbon neutrality (scopes 1, 2 and 3) by 2050.

In addition to its global policies, the HSE Department has developed a set of internal standards outlining the procedures for measuring, monitoring, and reporting environmental indicators required to calculate scope 1, 2 and 3 emissions. The standards are regularly reviewed and updated where necessary to ensure compliance with applicable laws and regulations, as well as to incorporate any specific risks associated with EUROAPI’s activities.

3.3.1. Direct and indirect emissions from Group activities (Scopes 1 & 2)

With respect to scope 1 emissions, the Group has the objective of having a vehicle fleet with electric vehicles only by 2035 in line with European guidelines.

With respect to scope 2 emissions, EUROAPI stepped up its efforts in 2022 to procure a greater share of its electricity from renewable sources, with the goal of having 100% of its electricity consumption derived from renewable sources by 2025.

The Group measures and monitors its GHG emissions and reports them in line with the GHG Protocol methodology. Since 2020, scope 1 and 2 emissions have decreased by almost 20%.

- Scope 1 emissions were reduced in 2022 thanks in particular to better management and maintenance of cooling facilities, as well as the replacement of compressors at our Brindisi site (Italy).
- Scope 2 emissions were lower than the baseline year, despite a minor increase in 2022 compared to 2021. This slight increase is an artefact due to an improvement in the Group's methodology: scope 2 emissions now include purchases of cooling water, chilled water and compressed air for our Frankfurt site, which were previously not accounted for.

These positive results indicate that the Group is on the right track to meet its 30% reduction target by 2030.

<i>Scope 1 & 2 emissions (in metric tons of CO₂e)</i>	2022	2021	2020	Change vs 2020 (%)	
Scope 1 GHG emissions	61,317	73,582	74,043	-17.2	%
Scope 2 GHG emissions	30,061	27,371	40,003	-24.9	%
Total Scope 1 & 2 GHG emissions	91,378	100,953	114,046	-19.9	%

Several industrial initiatives have been implemented to reach our goal of a 30% scope 1 and 2 emissions reduction by 2030. One of the most recently initiated projects is a state-of-the-art biomass boiler at our Saint-Aubin-lès-Elbeuf site in France. This new generation biomass boiler will reduce CO₂ emissions by nearly 76% compared to the current gas boiler. The design and engineering of this biomass boiler have already been finalized. The project was started in 2022 and is due to be operational in 2026. The 17 MW boiler will use waste wood (Grade B) and is expected to produce 140,000 tons of steam per year, enabling EUROAPI to cut its yearly fossil fuel CO₂ emissions by approximately 20,000 tons. It could also allow for the production of green electricity using cogeneration technology, covering 10% of the needs onsite and supplying local community heating networks.

3.3.2. Other indirect emissions that occur in the upstream and downstream activities of the Group (Scope 3)

In 2022, the Group also worked to address the main contributors to its scope 3 emissions:

- with purchased goods representing almost 50% of scope 3 emissions, EUROAPI implemented programs focused on solvents, acids, bases, and biotechnology yield;
- with waste representing almost 20% of scope 3 emissions, we have rolled out programs focused on waste reduction.

For instance, our solvent regeneration program is expected to reduce our solvent consumption by 20,000 tons of CO₂ equivalent by 2030 compared to 2020. Our acids and bases consumption program and our biochemistry yield improvement program are expected to further reduce our consumption by an additional 15,000 tons of CO₂ equivalent by 2030 compared to 2020.

Waste treatment represents more than 20% of EUROAPI's scope 3 carbon footprint, with hazardous waste treatment representing 70% of total waste treatment. Our waste treatment carbon footprint reduction priority is linked to "Avoid" and "Reuse" chemical strategies and is expected to reduce our footprint by 11,000 tons of CO₂ equivalent by 2030 compared to 2020.

Scope 3 emissions are calculated for each category outlined in the GHG Protocol.

<i>Scope 3 GHG emissions (in metric tons of CO₂e)</i>	2022	2021	Change vs 2021 (%)
1. Purchased goods and services	280,661	313,117	-10.4 %
2. Capital goods	24,355	22,219	+9.6 %
3. Fuel and energy-related activities	24,698	23,650	+4.4 %
4. Upstream transportation and distribution	22,906	22,906	— %
5. Waste generated in operations	128,621	132,665	-3.0 %
6. Business travel	1,159	2,000	-42.1 %
7. Employee commuting	5,445	4,873	+11.7 %
8. Upstream leased assets	N/A	N/A	N/A
9. Downstream transportation and distribution	N/A	N/A	N/A
10. Processing of sold products	78,138	117,448	-33.5 %
11. Use of sold products	N/A	N/A	N/A
12. End-of-life treatment of sold products	6,885	6,554	+5.1 %
13. Downstream leased assets	N/A	N/A	N/A
14. Franchises	N/A	N/A	N/A
15. Investments	N/A	N/A	N/A
Total Scope 3 GHG emissions	572,868	645,432	-11.2 %

Scope 3 emissions were 11% lower in 2022 than in 2021, a decrease that can be attributed to the Group's environmental drive as well as to improvements in data quality and analysis methodology, further to the modeling work and support from an external consultant.

According to the GHG protocol, some scope 3 categories are not applicable to the Group's business activity or are accounted for under other emissions categories.

3.3.3. Physical risks resulting from climate change

Extreme weather events due to climate change can present a risk both for our production facilities and for the distribution chain of our products to our customers.

Natural risks are taken into consideration in the Group's crisis management plan for each of our production facilities. Following the recommendations of our insurance provider, we have put in place flood barriers in Saint Aubin-lès-Elbeuf (France) to protect the facility from potential flooding due to the Seine River overflowing, and in Brindisi (Italy), we have reinforced the steel structure of our facility in case of earthquake.

3.3.4. Improving energy efficiency and increasing use of renewable energies

To address the challenges of diminishing fossil fuel resources and climate change, EUROAPI has adopted an approach that combines energy efficiency (consume less and consume smarter) with the decarbonization of energy supplies (consume differently).

Within the framework of its ESG priorities, the Group has developed a strategy for improving energy efficiency across its operations and increasing its use of energy derived from renewable sources. The strategy is centered around the following elements:

- integrating energy efficiency in the design and choice of energy consuming equipment;
- choosing carbon-neutral designs for all new buildings;
- implementing energy recovery processes;
- producing renewable energy on company sites (self-generation); and
- increasing purchases of electricity from renewable sources.

In addition to its global policies, the HSE Department has developed a set of internal standards which outline the procedures for measuring, monitoring and reporting environmental indicators including energy consumption and usage. The standards are regularly reviewed and updated if necessary to ensure compliance with applicable laws and regulations as well as to incorporate any specific risks associated with the Group's activities.

For all new building projects, a carbon neutral design will be used. Our vision is to promote the use of recovered energy, heat pumps and renewable electricity to heat buildings.

EUROAPI actively seeks opportunities to purchase renewable electricity, wherever possible, through long-term contracts such as Power Purchase Agreements (PPAs) and certificates such as Guarantee of Origin (GO) and Renewable Energy Certificates (RECs). In 2022, 87% of the electricity purchased by the Group was derived from renewable sources.

In 2022, a new project was initiated for the installation of a 17 MW biomass boiler at the industrial facility at Saint-Aubin-lès-Elbeuf (France). As mentioned in section 3.3.1, this boiler will replace an existing gas-powered boiler and is estimated to reduce CO₂ equivalent (CO₂e) emissions by nearly 76%. The new boiler, powered with wood waste (Grade B), should be operational in 2026.

Solar photovoltaic panels are scheduled to be installed at the Haverhill industrial site (United Kingdom) in 2023. The Group has also identified other potential projects to bring it closer to its goal of reducing consumption of non-renewable energy resources, such as the installation of biomass boiler systems and solar photovoltaic panels at other industrial sites.

The Group's efforts to improve energy efficiency continue to prove effective, as demonstrated by the 9% reduction in its total energy consumption in 2022 versus 2020.

The Group achieved positive results again in 2022 with respect to its objective of reducing consumption of energy from non-renewable sources. In particular, the Group was able to maintain its reduced consumption of natural gas versus 2020. Important maintenance work was completed on the gas turbine at the Haverhill site in 2021. In 2022, the reduction can be attributed to the decreased use of natural gas for heating buildings at all facilities and for the treatment of Volatile Organic Compounds (VOCs) at the Frankfurt site, for which the Group has been successful in reducing emissions in parallel.

<i>Energy consumption by source (MWh)</i>		2022	2021	2020	Change vs 2020 (%)
Renewable	Renewable electricity (purchased)	143,646	163,553	51,765	+177.5%
	Renewable electricity (generated on-site)	8	12	11	-27.3%
	Total renewable energy consumption	143,654	163,566	51,776	+177.5%
Non-renewable	Non-renewable electricity	21,392	3,734	126,914	-83.1%
	Natural gas	332,470	327,047	378,252	-12.1%
	Waste-to-energy	6,775	5,809	5,530	+22.5%
	Other non-renewable energies (steam, chilled water, compressed air, etc.)	97,646	98,764	100,281	-2.6%
	Total non-renewable energy consumption	458,283	435,354	610,978	-25.0%
Total energy consumption		601,937	598,920	662,754	-9.2%

In 2022, 87% of the electricity consumed in the Group's industrial facilities was derived from renewable sources. Five out of its six sites are using 100% electricity coming from renewable sources. Overall, the Group has continued to make progress towards its objective of using 100% electricity derived from renewable sources at all of its industrial facilities by 2025.

However, in 2022, the amount of renewable electricity generated on site through solar photovoltaic systems was less than in previous years, following temporary equipment failure at the Budapest site.

3.4. Our commitment to greener chemistry

Green chemistry focuses on making industrial chemistry safer and cleaner, and on giving more consideration to how energy could be used more efficiently while generating economic benefits. This concept is driven by efficiency combined with environmental responsibility, to offer enhanced chemical-process economics. Green chemistry relies on 12 well-defined principles⁴.

With a long history in active ingredient manufacturing, EUROAPI is committed to improving its manufacturing processes and technologies in order to minimize its impact on the environment. Each development team involved in the design and improvement of our chemical processes is intently focused on this goal.

To move us closer to this goal, we have developed an internal standard for banned solvents. In a chemical process, solvents are used for the chemical reaction itself, for the extraction, for the crystallization, and for the cleaning of the equipment train. However, solvents react in the atmosphere, producing air pollutants that can potentially affect human, animal and plant health. They can also harm building materials, forests and crops. Many organic solvents are classified as toxic or carcinogenic.

With our continuous process improvement program, we can achieve a reduction of either solvent or water consumption for some of our industrially manufactured products (APIs or intermediates). And to control the type of solvent that we use, when no alternative is available, our internal standard for banned solvents is used as a reference and is regularly updated.

An example of technology that is enabling sustainable chemistry is our production system with flow chemistry (continuous chemistry). Its positive impact is several-fold: the synthetic process is safer, as it is based on environmentally benign chemistry design, including environmentally benign solvents and auxiliaries; it is more energy efficient; and it reinforces real-time analysis for pollution prevention. This system is in operation at our UK-based Haverhill site, producing one of the largest marketed APIs with continuous process and minimized solvent usage.

3.5. Optimizing water management

EUROAPI is committed to the responsible management of water in order to have environmentally sustainable and socially equitable usage of this essential resource. The Group's industrial activity requires the use of water which is an essential element in the production of APIs and necessary for the operation of industrial sites and equipment.

Beyond domestic uses of water (washrooms, cafeterias, drinking water, irrigation, etc.) there are three types of water usage in the Group's industrial operations.

1. Water that is directly used in the synthesis of APIs for which high grades of water are required and water quality is closely monitored at all stages of production and use. After usage, the effluents are collected and transferred to dedicated facilities for treatment (internal or external).

⁴ 12 Principles of Green Chemistry - ACS Green Chemistry Institute®: <http://www.acs.org/content/acs/en/greenchemistry/what-is-green-chemistry/principles/12-principles-of-green-chemistry.html>

2. Heat transfer systems to control temperature of manufacturing processes, essentially cooling water applications. In this case, the quality of water discharged is only slightly changed after usage.
3. Water that is used for cleaning equipment and vessels: water of high quality is also required for this activity, to ensure efficiency of the cleaning process. After usage, the effluents are also collected and transferred to dedicated facilities for treatment.

Mindful of the water-dependent nature of API production and in line with its ESG priorities, EUROAPI has developed a water management strategy based on the following elements:

- implementation of a water efficiency program at each industrial site, adapted to site-specific requirements;
- prioritization of industrial sites presenting higher water-related risks;
- continuous assessment of water-related risks; and
- consideration of water use at product level (product water footprint).

In addition to its global policies, the HSE Department has developed a set of internal standards which outline the procedures for measuring, monitoring and reporting environmental indicators including water withdrawal and usage.

Annual action plans aimed at managing water use, and reducing water consumption, are established and implemented at each manufacturing site. According to the Group's industrial site requirements, plans may include equipment upgrades or the installation of new equipment allowing for greater water conservation.

All sites are encouraged to recycle water in local applications. Different methods are used such as the implementation of closed water-cooling systems with multiple loops.

The prioritization of industrial sites presenting higher water-related risks allows the Group to direct resources where they are most needed and can have the most impact.

The Group's water efficiency program is expected to further reduce water consumption even with the planned increase in production capacity.

Water conservation efforts at individual sites were sustained in 2022 and the Group's total water consumption continues to follow a downward trend.

<i>Water withdrawal by source (in thousands of m³)</i>	2022	2021	2020	Change vs 2020 (%)
Public supply	1,411	1,235	1,377	2.4 %
Other supplier	19	19	31	-36.7 %
Surface water	4,216	4,572	4,903	-14.0 %
Groundwater	11,915	11,912	14,692	-18.9 %
Total water withdrawal	17,561	17,737	21,004	-16.4 %

The quantity of water recycled or reused at the Group's sites is expected to increase due to our water efficiency program. On average, over the period 2020-2022, an estimated 25% of the water consumed at the Group's sites has been recycled or reused.

<i>Water consumption (in thousands of m³)</i>	2022	2021	2020	Change vs 2020 (%)
Water recycled / reused on site	4,885	4,809	6,049	-19.2 %
Total water consumption	18,352	16,806	21,256	-13.7 %

The implementation of a new production technology dedicated to vitamin B12 at our site in Saint-Aubin-lès-Elbeuf (France) will enable EUROAPI to reduce water consumption with additional benefits in terms of waste reduction.

3.6. Improving waste management and promoting responsible consumption

The synthesis of APIs is dependent on chemical processes that generate waste as a by-product. EUROAPI generates, through its industrial activity, hazardous and non-hazardous waste that is classified according to the legislation in force.

The reduction of waste arising from its operations, in particular through greener chemistry, is one of the Group's environmental sustainability priorities. Emissions related to industrial waste account for approximately 20% of the Group's total scope 3 emissions.

The management of raw materials is also a priority, as purchased goods carry an associated environmental impact. Almost half of the environmental impact of purchased goods is related to three categories of raw materials: solvents, acids-bases and raw materials used in the manufacture of biotechnology products. The Group is therefore implementing programs focused on solvent recovery as well as biotechnology yield that can significantly decrease the environmental impact of these raw materials.

Within the framework of its ESG priorities, the Group has a strategy in place for waste management and responsible consumption, centered around the following elements:

- implementing sustainable chemistry practices and improving manufacturing processes through a continuous improvement process program;
- optimizing consumption of non-renewable raw materials used in manufacturing processes through programs focused on solvents, acids, bases, and biotechnology yield;
- a waste management policy based on reducing the generation of waste at source, reusing and recycling, and using landfill only when necessary;
- prioritization of industrial sites producing greater quantities of hazardous waste; and
- continuous assessment of risks related to raw material consumption and waste production.

In addition to its global policies, the HSE Department has developed a set of internal standards which outline the procedures for measuring, monitoring and reporting environmental indicators related to waste production and raw material consumption.

The Group has identified three industrial sites to prioritize based on the greater quantities of hazardous waste produced related to their respective activities and manufacturing processes.

A program has been developed for these three priority sites for 2023 and 2024:

- the Frankfurt site will have an increased solvent recycling capacity in 2023 with the use of a distillation column that will be able to regenerate 800 tons of solvent per year;

- the Vertolaye facility will conduct a study in 2023 to validate the potential to increase the site's solvent distillation capacity by 3,000 tons and will also implement a project in 2024 to recycle 400 tons of solvent at the site;
- the Budapest site will have new equipment to boost solvent recycling capacity, allowing for the distillation of 240 tons of solvent per year.

Total waste produced in 2022 at the Group's industrial sites fell by 3% versus 2020.

<i>Waste produced (in metric tons)</i>	2022	2021	2020	Change vs 2020 (%)
Hazardous waste	55,307	53,414	57,259	-3.4 %
Non-hazardous waste	43,361	42,780	44,410	-2.4 %
Total waste produced	98,668	96,194	101,669	-3.0 %

The rate of material recovery (quantity of waste recycled as a percentage of total waste produced) achieved has been relatively stable over the last three years. In 2022, a project at the Frankfurt site resulted in an increased recycling rate of hazardous waste. Over 100 tons of solvents were recycled further to the optimization of the waste logistics platform, reducing total waste produced at the site and avoiding approximately 200 tons of CO₂e emissions.

<i>Waste recycled (in metric tons)</i>	2022	2021	2020	Change vs 2020 (%)
Hazardous waste	7,883	7,924	11,263	-30.0 %
Non-hazardous waste	26,180	25,794	24,573	+6.5 %
Total waste recycled	34,063	33,718	35,836	-4.9 %
Rate of material recovery	34.5 %	35.1%	35.2 %	-0.7 %

In 2022, the total amount of waste sent to landfill by the Group's industrial sites was almost 30% lower than in 2020. Progress in 2022 can be attributed, in part, to a project implemented at the Brindisi site to reduce the quantity of sludge produced at the site's wastewater treatment plant. The sludge dryer's improved performance drove a significant reduction in the amount of non-hazardous waste sent to landfill by the site.

In line with its waste management strategy, the Group has continued to make progress towards its goal of reducing its landfill disposal rate. As of 2022, two of its six industrial sites have achieved "zero waste to landfill".

<i>Waste sent to authorized landfills (in metric tons)</i>	2022	2021	2020	Change vs 2020 (%)
Hazardous waste	1,539	1,359	1,845	-16.6 %
Non-hazardous waste	3,656	5,035	5,548	-34.1 %
Total waste to landfill	5,195	6,394	7,393	-29.7 %
Rate of landfill disposal	5.3 %	6.6 %	7.3 %	-2.0 %

The rate of energy recovery (quantity of waste incinerated with energy recovery, as a percentage of total waste produced) for all of the Group's industrial sites has been relatively stable over the last three years presented.

<i>Waste incinerated with energy recovery (in metric tons)</i>	2022	2021	2020	Change vs 2020 (%)
Hazardous waste	19,085	16,613	17,030	+12.1 %
Non-hazardous waste	2,118	2,450	1,593	+33.0 %
Total waste incinerated with energy recovery	21,203	19,063	18,623	+13.9 %
Rate of energy recovery	21.5 %	19.8 %	18.3 %	+3.2 %

Other waste treatment methods are used at the Group's industrial sites depending on the specific nature of the waste to be treated and the most appropriate method available. Total waste treated with other methods as a percentage of total waste produced has been relatively stable over the last three years.

<i>Waste treated with other methods (in metric tons)</i>	2022	2021	2020	Change vs 2020 (%)
Hazardous waste ¹	26,801	27,518	27,121	-1.2 %
Non-hazardous waste ²	11,407	9,500	12,696	-10.2 %
Total waste treated with other methods	38,208	37,019	39,817	-4.0 %
% total waste	38.7 %	38.5 %	39.2 %	-0.5 %

(1) Includes the treatment of water containing chemical agents via incineration.

(2) Includes the off-site treatment of brine water.

The rate of solvent recycling (quantity of solvents recycled as a percentage of total solvents consumed) achieved has been relatively stable over the last two years (64% to 68%).

In 2022, a project to improve the recovery rate of solvent was implemented at the Group's Budapest site. The project allowed for the regeneration of approximately 54 metric tons of solvent and reduced hazardous waste produced at the site by 68 metric tons.

<i>Solvent consumption (in metric tons)</i>	2022	2021	2020	Change vs 2020 (%)
Solvents consumed	83,275	79,117	107,500	-22.5 %
Solvents regenerated	56,213	50,581	78,624	-28.5 %
Rate of solvent recycling	67.5 %	63.9 %	73.1 %	-5.6 %

3.7. Reducing emissions into air, water, soil and subsoil

Solvents are required for API production and their use is highly regulated due to their volatile nature and associated emissions factor. Solvents used by EUROAPI are either purchased or regenerated on site, and they are used in compliance with the recommendations for proper use established at the Group level. The Group promotes the optimization of processes, and regeneration, where possible, in order to reduce the quantity of solvents consumed.

The Group aims to reduce emissions of Volatile Organic Compounds (VOCs) resulting from the synthesis of APIs. To achieve this objective, it promotes an integrated approach at each stage of product development, from research to production, which is designed to:

- limit the use of solvents by substituting biological processes for chemical ones;
- promote the recycling of solvents;
- select the least toxic solvents;
- reduce emissions at source by adapting manufacturing processes accordingly and implementing maximum containment of solvent use; and
- capture and appropriately treat any residual VOC emissions through the implementation of abatement technologies such as cryogenic capture, gas scrubbers, thermal oxidizers or activated carbon.

The Group is also committed to controlling wastewater discharge at its industrial sites. It proactively pursues programs that are designed to:

- monitor and control water discharged into the environment according to requirements defined by local permits;
- reduce the quantities of wastewater discharged at source; and
- employ advanced treatment methods at site level, such as ozone or activated carbon, where appropriate.

With respect to soil and subsoil, the Group has implemented a systematic multi-year program of monitoring and studying soil and groundwater at its sites. The detailed assessments carried out as part of this program can lead to remediation work should it be necessary. The Group continuously reviews any necessary remediation work and implements appropriate rehabilitation work in collaboration with national and local authorities.

In addition to its global policies, the HSE Department has developed a set of internal standards which outline the procedures for measuring, monitoring and reporting environmental indicators related to VOC emissions and other releases into the air, water, soil or subsoil at each site.

In line with its solvent recovery program, the Group has an internal standard for banned solvents which is adhered to by all industrial facilities.

Environmental analysis of the Group's sites is carried out periodically to identify any actual or potential impact on the environment, and to define priorities in terms of environmental protection action plans and monitor progress.

At its Saint-Aubin-lès-Elbeuf site (France), the Group has initiated a new vitamin B12 fermentation process under the name "Project ELLA". The objective is to improve the vitamin B12 manufacturing process and reduce at source the quantity of wastewater discharged into the Seine River. The new fermentation generation based on a nitrite-free process by design will result in a decrease in waste. In addition, wastewater from the site will be treated by ozonation at the site's wastewater treatment plant, in order to ensure water quality and suitability for discharge.

At the Vertolaye site (France), improvements to environmental emissions management are ongoing. To reduce quantities of VOCs discharged into the atmosphere, an incineration system has been installed with collection points at all discharge channels. The Group has also made improvements to the wastewater treatment plant in order to improve the quality of wastewater discharge and reduce the quantity of effluent.

EUROAPI has made further progress towards reducing its air emissions in 2022. VOC emissions continued to decrease thanks to initiatives at the Group's sites. In particular, VOC emissions at the Vertolaye site decreased by 67% further to investments in the incineration system. VOC emissions at the Brindisi site decreased by over 50% further to improvements in measurement techniques. The Group also achieved a significant reduction in Ozone Depleting Substance (ODS) emissions in 2022 thanks to new equipment (cooling compressors) installed at the Brindisi facility.

<i>Air emissions</i>	2022	2021	2020	Change vs 2020 (%)
VOC emissions (in metric tons)	1,413	1,338	2,092	-32.5 %
ODS emissions (in kilograms)	261	545	1,696	-84.6 %

The Group pressed ahead with programs in 2022 to reduce quantities of wastewater discharged at source at its industrial facilities, resulting in a 14.5% reduction versus 2021.

<i>Wastewater discharged (in thousands of m³)</i>	2022	2021	2020	Change vs 2020 (%)
	21,786	25,492	22,101	-1.4 %

Due to the various requirements of health authorities for each of its sites, the Group does not report indicators related to the quality of water discharge. However, water quality parameters, notably chemical oxygen demand (COD), are tracked at site level and comply with the limits applicable according to local permits.

3.8. Responsible management of products

EUROAPI takes into account health, safety and environmental protection in the design of its products and throughout the life cycle of its products. This approach involves all contributors in the product chain, from raw material suppliers to end customers.

Regulatory compliance is a key element of product safety for the Group's customers, the entire value chain and stakeholders.

In particular, the Group is subject to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), the Classification, Labelling and Packaging (CLP) regulation in Europe and the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulation in Europe which came into force in 2007 to ensure the safe manufacture and use of chemical substances in the European Union.

EUROAPI is a signatory of the Responsible Care® Global Charter from the International Council of Chemical Associations (ICCA). This Charter is the global chemical industry's voluntary initiative, which – beyond legislative and regulatory compliance – commits companies, national chemical industry associations and their partners to the safe management of chemicals throughout their life cycle, while promoting their role in improving quality of life and contributing to sustainable development.

3.9. Protecting biodiversity

Biodiversity refers to the variety of life on Earth and encompasses the diversity of species, ecosystems, and genetic variation. Biodiversity is essential for maintaining the stability and resilience of the planet's ecosystems, as well as providing numerous benefits to human well-being, such as food, medicine and ecosystem services.

As the world's natural ecosystems are deteriorating at an unprecedented rate, preserving biodiversity and ensuring the sustainable and fair use of natural resources stand out as key issues. These are key topics for EUROAPI and are an essential part of the Group's ESG and Environmental Sustainability priorities.

Reducing CO₂ emissions, improving energy efficiency and increasing use of renewable energies, improving waste management, developing greener chemistry processes, reducing emissions into air, water, soil and subsoil and promoting sustainable sourcing all contribute to protecting biodiversity.

EUROAPI has also rolled out several initiatives, at site level, to protect and preserve biodiversity. These include regular flora and fauna inspection and species protection. These initiatives will be structured and organized going forward.

Four of the Group's industrial facilities manage beehives with governance and processes which involve volunteers. In 2022, 180 kg of honey was produced and sold to employees, with the related income donated to charity or reinvested in the initiative.

3.10. Mobilizing employees for environmental protection

To continuously improve our environmental performance and to act as a responsible employer, EUROAPI promotes environmental awareness and mobilization among its employees.

In 2022, more than 250 employees participated in environmental awareness events, including Climate Fresk workshops. Energy saving campaigns took place at almost all the Group's premises, and environmentally friendly soft mobility and commuting were promoted.

Thanks to the on-site HSE network, the Group intends to press ahead with these initiatives and to amplify these efforts by cascading them throughout the organization.