Circular Economy & Waste Management

GRI Standards:

306 Waste

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1. Performance

Circular economy calls for a more restrained and efficient use of resources and limited waste generation. It is a production and consumption model that involves sharing, leasing, reusing, repairing, remanufacturing, and recycling existing materials and products for as long as possible, extending the product life cycle. It embodies the goal to go beyond impact reduction towards a model of value creation that is socially, economically and environmentally positive. The circular economy is based on three principles, driven by design: eliminate waste and pollution, keep products and materials in use, and regenerate natural systems to decouple economic growth from the consumption of finite resources.

How is Sanofi measuring its performance in waste management and circularity?

Our work focuses on the totality of the waste that the company generates:

1. Post-operational waste:
   - By end-2025, at least 90% of our waste shall be reused, recycled or recovered.
   - By end-2025, our landfill rate of waste shall be less than 1%.
   - By 2030, reduce our waste impact index (based on waste impact hierarchy, cf definition below) by -30% vs 2019.

2. "Post-consumer waste" which consists essentially in packaging & injectable devices.
   - By 2030, 100% of our vaccines packaging will be blister-free.

Our results in 2025

- Post- operational waste:
  - We reuse, recycle, and recover 89.4% of our operational waste. (vs. 89% end-2024).
  - 0.8% of our waste went to landfill (vs. 1.1% end-2024).
- Post-consumer waste:
  - 61.5% of our vaccines packaging is blister-free as of end-2025.
  - Growing take-back footprint with more than 200k injectable devices collected in 2025, within 3 pilots in Europe (Denmark, France, UK), representing 3.42 tons of plastics.

NB: Data provided in this section relates to waste from Sanofi's operational activities. Data for waste not related to our operational activities and for non-recurring waste are not consolidated here; this can include waste generated by construction of new buildings or remediation of land, and other types of non-recurring waste generation.
Our total waste disposed data is certified by statutory auditors and published in the CSRD report.

2. Actions

Sanofi believes that implementing the principles of the circular economy plays a key role in its journey towards net zero in 2045, as well as in achieving its other environmental commitments, on biodiversity, water consumption, waste, eco-design etc.

As drugs and vaccines are not ordinary goods, this implementation remains a big **challenge** for the pharmaceutical industry. Medicines must meet many different regulatory requirements to ensure the **quality** of each unit sold. Market launch authorization for drugs and vaccines requires **regulatory approval** from health authorities, analyzing quality manufacturing procedures, as well as strict **safety** standards for active ingredients, excipients, medical devices, and packaging materials. Health authorities must also approve any significant changes in the processes, substances, or materials used to manufacture a drug or vaccine, including environmental risk assessments.

To accelerate its transition to a circular economy, we are working along a dedicated circular economy roadmap, designed in 2022 with the support of Circul´R:

1. Promote a more sober procurement;
2. Implement an Eco-design approach for our products and processes;
3. Encourage industrial symbiosis to optimize resource management;
4. Promote adequate consumption of our products;
5. Extend the life duration of our products; and
6. Reduce our waste and better reuse and recycle it.

2.1 Promote a more sober procurement

First principle of circular economy consists in **reducing the consumption** of natural resources and materials. That is why we work hand in hand with our suppliers and CMOs.

Extract of our SLA template:

3.2 Operational waste of Sanofi
Suppliers shall strive for circularity, designing out waste all along the value chain, taking measures to improve efficiency and reduce the consumption of resources, favoring renewable and sustainable sources. Suppliers shall also take measures to use resources that Sanofi can reuse and recycle.

Packaging materials used by Suppliers to pack products, including tertiary packaging, being part of this agreement, shall by 2030 include Eco-design principles, without compromising overall packaging safety and function:

- All packaging materials used by Supplier to pack products (plastics, cardboard, shrink foil, nylon straps, etc.) shall be 100% recyclable
- Wrapping films shall be removed
- Replace single use plastic in packaging by cardboard, paper, bio- based materials, etc.

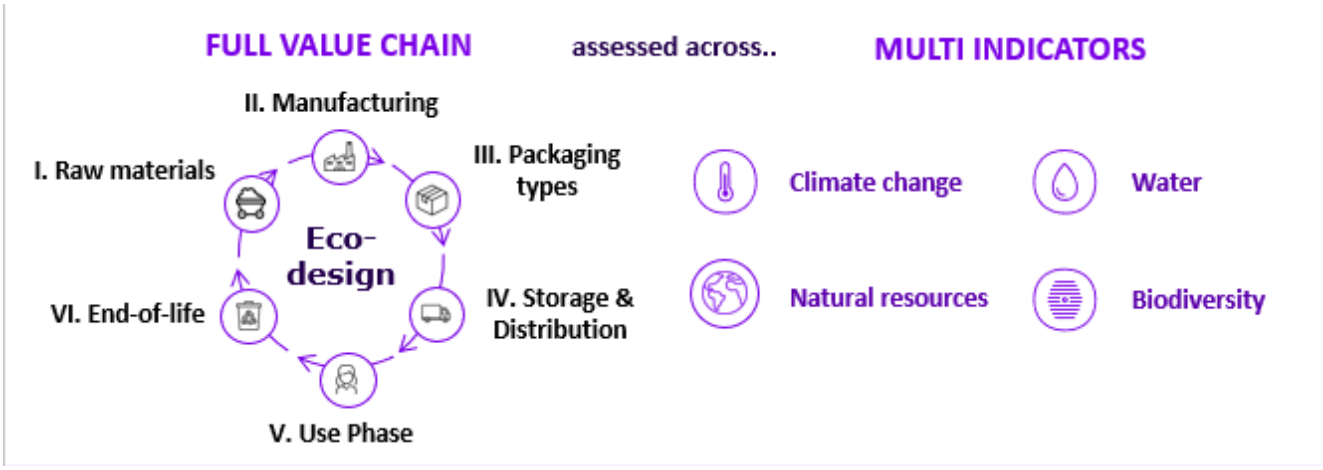
To support sustainability of the entire value chain, supplier shall develop products that are:

- Reusable as much as possible
- Made of recyclable material
- Mono-material, otherwise "Designed for disassembly" as much as possible (to ease recyclability)
- Made of Post-Consumer Recycled content (PCR)

2.2. Implement an Eco-design approach for products and processes

Eco-design is the cornerstone of our environmental strategy and one of our Corporate Social Responsibility flagships. Eco-design is a "*rethink*" approach that aims to improve our medicines' environmental performance by integrating environmental criteria into our product design and development. To reduce the overall product environmental impacts, we have a holistic approach which considers:

- All steps of the life cycle (Raw material extraction & transformation, Manufacturing, Packaging, Distribution, patient use phase, End of life treatment)
- Multi-criteria indicators (Climate change, water scarcity, resource depletion, circularity …).



This science-based expertise allows us to evaluate potential environmental impacts and take action to provide eco-innovative products.

That is why we are committed to delivering the following:

1. By 2025, 100% of our new products follow an Eco-design approach (Performance 2025: 100% achieved, with 1 year ahead of expectations)
2. By 2030, 100% of our top-20-selling products follow an Eco-design approach (Performance 2025, 60% achieved, with 1 year ahead of expectations)

Many projects are already implemented with this mindset, such as fostering responsible consumption of raw materials, energy, or water for manufacturing activities, recycling solvents, including ecotoxicity concerns in our R&D pipeline, improving actions in our supply chain, and promoting responsible use & disposal of medicines by patients.

To give one example of our Eco-design activity: For one of our top-selling medications, named Dupixent*, currently used by over one million patients worldwide, optimizing the active ingredient manufacturing process with our partner Regeneron has cut its carbon footprint by 53%, reduced water uses by 62%, and minimized resource depletion by 30%. Considering 1 year of treatment for 1,000,000 Dupixent patients this reduction of impact is equivalent to…

- **13,984,000** km driven[1], Reduction equivalent to the emissions from a single car circumnavigating the earth 350 times.
- **1,430,000 bottles of water[2],** enough to quench the thirst of every person in Milan, Italy.
- **368,000 Li-ion Smart Phone Batteries[3],** enough to provide everyone in Florence, Italy with a cell phone.

**Based on an ISO-compliant Life Cycle Assessment (LCA) conducted using data from 2023, including a comparison of Dupixent medicine full value chain in 2020. The study was peer-reviewed by an independent panel, following ISO 14040 and 14044 standards, ensuring transparent and accurate results.*

Eco-design being an important pillar for Sanofi, a dedicated factsheet is available on the Document Center: Eco-Design Factsheet.

3. Encourage industrial symbiosis to optimize resource management

Industrial and territorial ecology, also known as industrial symbiosis, is a form of cooperative organization between different actors (inside or outside Sanofi) of the same territory. It aims at optimizing the use of available resources between these actors to implement loops between actors in a collaborative way: energy, water, materials, waste, but also equipment and expertise. This organization makes it possible to make financial savings while reducing the overall environmental impact.

To give one example, our post-operational waste is locally treated, with ad hoc end-of-life solutions, like our egg waste in Val de Reuil : Part of the egg waste is composted, creating an organic amendment that is used in agriculture or soil improvement, on this territory.

4. Promote adequate use of medicines

At Sanofi, we promote the **adequate use of medicines**, with 2 measures, at country level:

- Firstly, disease **prevention** through vaccines, diabetes pre-treatment promotion and precision prescriptions which support the avoidance of waste.
- Secondly, **awareness** campaigns on the right way to use medicines. (e.g.: Australia return unwanted medicines initiative in partnership with local authorities to raise awareness on proper medicine use and disposal.

Opportunities and examples of adequate use of medicines are presented in the Industrial Emissions to the Environment factsheet in our Document Center.

Beyond promoting the right use of medicines by patients, Sanofi also takes responsibility for **the packaging and information materials** that accompany its medicines throughout their life cycle. Packaging and patient information leaflets represent a significant share of post-consumer waste. Applying the principles of the waste hierarchy — Refuse, Reduce, Reuse, Recycle — to our product packaging and medical devices is therefore a natural extension of our commitment to adequate and responsible medicine use. The following initiatives illustrate how we are progressively eliminating, reducing, and recovering the waste generated by our products once they reach patients:

1. Refuse: **Electronic Product Information (ePI)**

We remove Leaflet when regulatory allowed, by using QR-Code. Roll-out starting with a dozen brands over Asia, Europe and Latin America

ePI-paperless transition:
2022: Japan, Australia, New Zealand, Singapore
2024: Malaysia and Taiwan
Pilots:
More than 10 countries have launched pilots including paper removal (most European countries, Canada, countries in Latin America & Asia such as, Brazil, South Korea).

2. Reduce: **Eco-leaflet "If we keep it (leaflet), we reduce it"**

We introduced the EcoLeaflet program to significantly reduce patient information leaflet dimensions while preserving full content, leveraging optimized and validated text specifications. Initially piloted across our insulin pen portfolio (Lantus, Toujeo, Apidra, Soliqua, Lispro, Aspart), the program has already achieved ~40% conversion.

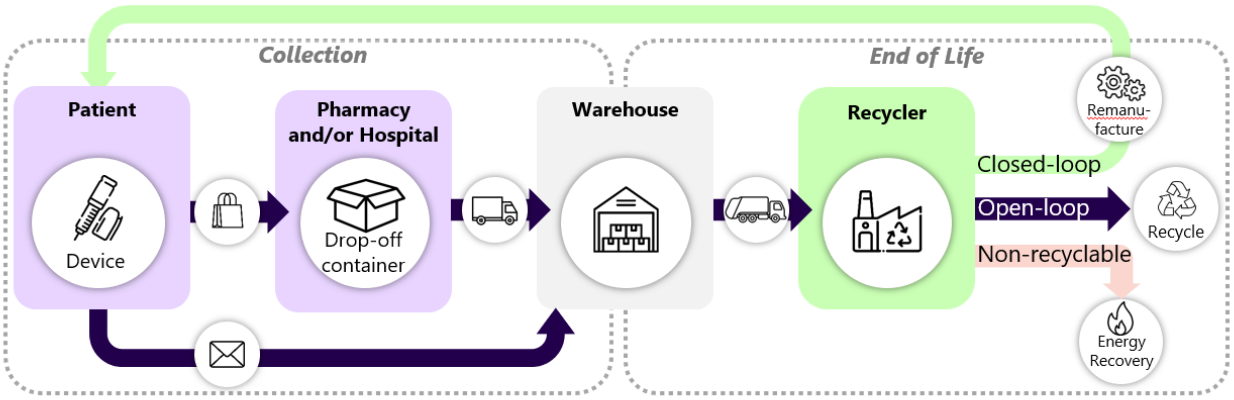
3.1. Recycle: **Paper packaging**

Thanks to 2024 Sanofi Planet Care Challenge, we test a Paper Pouch technology which can be relevant for secondary blister, compact solution for devices, and folding box for primary packaging Blister. This solution brings many benefits for our Planet Care roadmap, according to this packaging supplier:

- 100% recyclable
- 20%-70% lower material costs, depending on the initial packaging material.
- Up to 80% less CO2eq emissions than the traditional ALU-PVC blister
- Patient use of existing recycling streams with high adoption rate (paper bin)

3.2. Recycle: **<u>Devices Take-back programs</u>**

A take-back system aims at ensuring a process of recovering, separating, and recycling of our products either in closed-loop or open-loop.



Take-Back System Essentials: Key Elements and Main Environmental Considerations

As part of our extended responsibility as a producer, we have launched several take-back programs for used medical devices. Focus is to collect the diabetes pens after patient use as they are made of plastic, glass, and metals. Then, we make sure that the collected pens are given a new life rather than ending up as waste. As of end-2025, the following programs are in place:

3.2.1. The first recycling injection pens in Denmark

Sanofi, Novo Nordisk, Lilly and Merck have partnered to pioneer the world's first cross-industry solution for recycling materials from injection pens. The collaboration has been launched in Denmark, because of the existing recycling infrastructure in the country.
This collaboration started on May 1st, 2023, and will help us to accelerate our commitments to improve the proper disposal of medical devices. It is using pharmacies countrywide for the drop-off. As of end-2025, more than 4.5 million injection pens have been returned by Danish users in order to be recycled.

3.2.2. The first recycling program for injection devices in France

RECYPEN is the industry collaboration with Sanofi, Eli Lilly, and DASTRI using pharmacies to collect medical injection devices in four pilot regions: Auvergne-Rhône-Alpes, Grand Est, Hauts-de-France and Occitanie started July 1st, 2024, to be extended to full France territory in 2026.

3.2.3. UK, RePen

The countrywide RePen envelope system using postal services for sending used pens back to Sanofi started in April 2024. The main purpose of this take-back program is to study the patient acceptance of an envelope system and to investigate where the recycled materials can be of greatest use.

3.2.4. Other take-back systems for diabetes pens are in place in Asia

Vietnam, Philippines, Singapore, and Thailand, also on a voluntary basis.

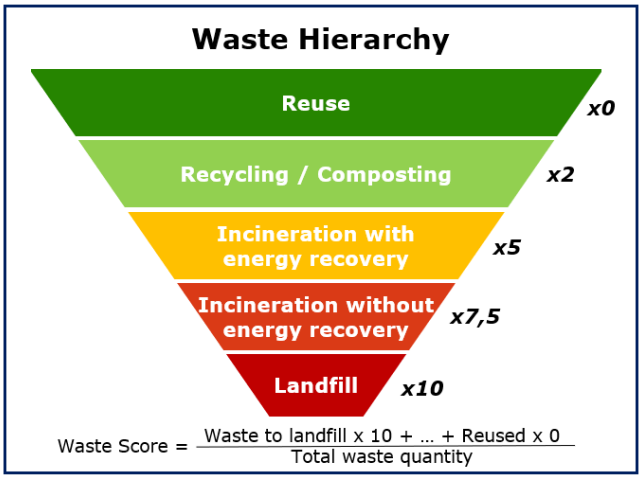
5. Extend the life duration of our products

Extending the lifespan of manufactured products (medical devices and medicines) is one of the levers to significantly reduce our environmental impact. This contributes to the prevention of waste, but also to the reduction of the extraction of new resources.

For example, we are developing a **reusable pen** for insulin injection that will expand their life duration from 1 injection to more than 1 year, reduce resources consumption and save CO2eq. by 10% vs. already improved TouStar version (already reusable) and 30% vs. "Classic" AllStar.

6. Reduce our industrial waste, better reuse and recycle

Improperly managed waste threatens ecosystems and human health. Pharmaceuticals can enter the environment through patient excretion or improper disposal of unused medicines. Circular economy principles help mitigate these impacts while addressing the growing scarcity of non-renewable resources through waste prevention, reuse, repair, recycling, and energy recovery. As part of its Planet Care program, Sanofi is committed to reducing waste's environmental and health impacts while improving resource efficiency. Site waste management follows local regulations and HSE standards, verified through regular internal and external audits. We conduct waste mapping at key sites to identify opportunities for the 3Rs (reduce, reuse, recycle) and continuously improve performance.



To digest the complexity of waste hierarchy (reduce, reuse, recycle…), we developed a normalized single **Waste Impact Index** that helps to better understand if a site is well on track to climb the waste hierarchy. The waste quantities of the different layers are multiplied with a weighing factor, summed up to build the Waste Impact Index. Then this sum is divided by the total waste quantity to build the waste score. The lower this waste score, the higher the waste management is in the waste hierarchy and the lower the impact to the environment (see picture). This enables us to track our progress on circularity.

To illustrate our work all along the operational waste hierarchy, here are some use cases:

REFUSE / PREVENT

The most virtuous action in circularity is to prevent waste generation at its roots. We are taking actions in production and manufacturing processes on the "Refuse / Prevent" concept which is a higher transformation lever:

1. PVC-free initiative started in 2022: see Eco-design factsheet
2. Blister-free vaccines initiative is removing plastic in secondary packaging: see Eco-design factsheet
3. Eco-design concerned substances list is banning the usage of some components: see Eco-design factsheet

REDUCE

The site of Aramon is putting into operation a sewage sludge dryer which will reduce the amount of waste incinerated by a factor of 3,3 (5000 to 1500 T/year) and reduce the number of trucks on the roads by a factor of 2 (these expected benefit will be updated with auditable data once the project is closed).

At Global level, our partnership with My Green Lab makes our labs more energy-efficient. The impact of the My Green Lab certificate is measurable: Up to 30% energy, 70% water and 10% waste reduction. Because high-impact research shouldn't come with a high environmental cost. Because environmental efficiency must be our North Pole. Labs can use up to 10× more energy than offices, which is why this transformation matters. Here's where we stand today:

- 141 R&D and M&S labs enrolled,
- thereof 91 certified.

And hopefully, we can share concrete impact on energy efficiency, waste reduction, water consumption reduction (etc) in the coming steps.

REUSE

Some of our solvents are treated on-site after use so they can be reused and hence are not counted as recovered waste. In 2025, 58% of solvents were regenerated and reintroduced into the industrial process. This avoided generating the same amount of waste.

- In Sisteron, a French chemistry site, we started late 2024 to focus on the objective to reuse and recycle used solvents when assessing the solvent waste streams. Based on this assessment this would reduce the solvent waste volumes on site and in addition it could help to reduce the consumption of virgin solvents.

RECYCLE

In Frankfurt, Germany, we're working with one of our suppliers to recycle the **2.1Mio trays** used every year in the production of insulin pens. Since 2022 the supplier produces new high-quality trays based also on recycled material. This saves **840 tons of CO2eq and 4,620 m³ fresh water every year**.

Since 2024, this same site is testing a pioneering project with Schott to showcase the potential of a circular economy in specialty glass production. We successfully brought unused glass vials from leftovers back into the Schott tubing production. Instead of throwing them out, we returned the glass containers to the glass manufacturer, who melts them down and uses them as raw material.

In Val de Reuil, a French Vaccines site, we implemented a process to grind plastic waste and send it directly for recycling. Since end of 2022 we are now able to avoid incineration of polypropylene and polystyrene.

At our site named "MA BioCampus", Massachusetts, USA, we implemented recycling programs for soft plastic/shrink wrap, pipette tip boxes, gloves and clean/unused SUT. This material was previously sent for incineration with energy recovery but is now shredded at a recycling facility and made into plastic polymer which can be made into chock blocks, plastic decking and Biohazardous waste containers. Hence 90% of the mass is recycled.

RECOVER (energy recovery)

When waste is not recyclable or has to be incinerated, we apply, when possible, a process where the energy generated during combustion is harnessed for reuse. This way, waste quantities are converted into electricity and steam. In 2025, the waste that was incinerated with energy recovery represents 40.15% of all Sanofi hazardous and non-hazardous post-operational waste.

LANDFILL

Our corporate target was to reach a landfill rate of less than 1% by end 2025. This target encompasses all Sanofi sites, either premises are rented or leased properties. Sites in countries where the infrastructures are not available or landfilling is mandatory by law, are excluded from scope. These exceptions must be documented by the sites.
As of end-2025, we achieved our goals, with 0.8% of the total waste quantity being landfilled in 2025.

Our influence on sites that are operated by third parties regarding waste management is limited. For sites that are operated by Sanofi, many projects like the example below were executed.

We diverted more than **4,000 tons of egg waste** from landfills to 2 main composting facilities, reducing the landfill rate at our Swiftwater site to 1% and trending to less than 1% for 2026 year-end. The composted egg-waste stream is the largest waste stream at Swiftwater. This material gets re-used after composite as athletic field soil, and other products for agricultural use.
With measures like this, we were able to **increase the 3R rate** there from **20% in 2019 to 89% in 2025**.

For more information, see our Document Center:

- *Eco-design factsheet*
- *Climate Change – Road to Net Zero factsheet*
- *Water Stewardship factsheet*
- *Pharmaceuticals in the Environment factsheet*