

WATER STEWARDSHIP

GRI Standards:

303-1, 303-2, 303-3: Water

306-1: Effluents and Waste

EXECUTIVE SUMMARY

As part of Sanofi's Planet Mobilization program, our strategy for water resource management is based on:

- the **reduction of our global water footprint**, applicable to all of our facilities,
- a specific focus on **priority sites**, presenting higher water-related risks and for which Sanofi implements specific actions for mitigation,
- A **responsible consumption of water**, to preserve the environment and health of individuals and communities.

Sanofi has committed to decrease water withdrawals by 25% between 2010 and 2020, this objective was revised in 2015 with a target of 10% reduction from 2015 to 2020. In 2020 we have achieved:

- **35% reduction vs 2010 baseline** and 22% reduction vs 2015 baseline,
- 5% reduction vs 2019, a performance shared by more than 45 of our industrial sites,
- to score A at the CDP Water Security Questionnaire.

Key principles for an efficient management of water are fully integrated to our Health, Safety and Environment (HSE) standards. For instance, we require all industrial sites to implement a water management plan, that includes water conservation initiatives, monitoring quality of quality, water-related risk assessment and wastewater discharge. Tools and action plans are constantly developed by our HSE department to identify, evaluate, prioritize, and control the environmental, social and sanitary impacts of its activities and products.

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Overview of Sanofi site in Vitry, France. 2020

1. OUR PROGRESS




Our objectives

Reduce our water withdrawals by 10% from 2015 to 2020

Implement water stewardship and water efficiency plans on 100% of our manufacturing sites by 2030

Global Performance 2020

22% reduction in water withdrawals compared to 2015

 Sanofi was scored A to the CDP Water Security questionnaire

Our environmental sustainability program called **Planet Mobilization**, has defined targets to reduce water usage in all of our sites. We have a particular attention on large industrial facilities with the highest footprint to be more impactful, but we also encourage any other site, in particular those that are most exposed to water risks, to implement water conservation measures: every drop matter !



A Since 2020
(A- in 2019)

In 2020, our efforts were rewarded with the score “A” for the CDP Water Security 2020 questionnaire, the highest score that can be obtained. Sanofi confirms its position in the Leadership band of Companies implementing the best practices on water management. This result is the realisation of our previous efforts and shows us that the company is on the right path in its water management.

2. STRATEGIC APPROACH

Water stewardship is an important value for Sanofi. We are committed to a responsible management of water, in order to have an environmentally sustainable and a socially equitable usage of this essential resource.

The responsible management of water resources concerns key aspects of our business, such as our license to operate our facilities, ensuring our business continuity to guarantee a permanent availability of our products, and our relations with several stakeholders in a regional context.

2.1. Understanding our water footprint

2.1.1. The situation in 2020

Sanofi had already reached its objective of 10% reduction on water withdrawals in 2018 (considering the 2015 baseline of 42.8 million of m³) which is 2 years upfront of the 2020 objective. As of 2020, the reduction was reaching 22% compared to the 2015 baseline.

This year, our **water withdrawals have decreased by 5%** vs 2019. This result clearly demonstrates that even if we have achieved our goal, we won't limit our efforts in our journey to water stewardship. We believe there are still numerous opportunities to increase the efficiency of our systems and optimize our operations.

2.1.2. The different uses of water

At Sanofi, there are different uses of water:

- **Domestic uses** in all sites (water used for indoor and outdoor household purposes) regardless of their principal activity (industrial or administrative)
- **Industrial applications**, that can be summarized as:
 - Heat transfer systems to control temperature of fabrication processes, essentially cooling water applications. In this case, quantity prevails, and the quality of water discharged is only slightly changed after usage,
 - Water that is directly used in the synthesis of ingredients or in the manufacturing processes of pharmaceuticals: high grades of water are required, and water quality is closely monitored at all stages of production and use,
 - Water that is used for cleaning equipment and vessels: high quality of water is considered as well, to ensure efficiency of the cleaning process. After usage, the effluents are collected and transferred to dedicated facilities for treatment (internal or external)
- At smaller scale, in our R&D facilities for all of the uses listed here above.

2.1.3. Sources of water

Sources of water will change from one plant to another, depending on physical conditions but also related to each site history. Some sites even have multiple sources of water and have to daily manage several streams of raw water before use.

There are three main sources of freshwater supply for Sanofi sites:

- **Municipal and third-party supply**, covering 23% of our total demand in 2020. In this case, water can be used with reduced additional treatment by sites, for industrial usage – with the exception of the production of purified water for pharmaceutical applications
- **Surface water** (water withdrawn from lakes or rivers), representing 24% of our withdrawals in 2020. Water is directly extracted from water bodies by Sanofi equipment, and requires appropriate treatment to ensure consistent water quality.
- **Ground water** (water pumped from water tables located immediately below Sanofi sites) which is our no. 1 source with 53% of withdrawals in 2020. Just as for surface water, dedicated treatment is required.

Sanofi is committed to a sustainable use of water. Regardless of the source, each site has to identify in their annual risk assessment program if there are any potential threats or conflicts with the source considered for water supply and inform Corporate on a regular basis of the situation. This is a major attention point for our priority sites located in water scarcity areas.

2.1.4. Recycling water

Where possible, we encourage our sites to recycle water for local applications. Recycling water is a great opportunity to reduce our water footprint, and by doing so to demonstrate our efforts for a sustainable use of this resource.

There are many ways to recycle water: harvesting rainwater, optimizing cooling water systems with multiple loops, implementing quaternary treatment at our wastewater treatment plants so the reclaimed water can be used as make-up for cooling towers or boilers, etc.

In 2020, **volumes of water recycled have significantly increased by 14,5%**, explained by the optimization of the operation of cooling systems in our large Chemistry and Biochemistry sites.

2.2. Water-related risks assessment

Our water risks assessment program relies on:

- A Company-specific water risks assessment program,
- Environmental risk assessments,
- Due diligence processes,
- Internal HSE audits,
- Suppliers & Subcontractors.

2.2.1. Identification of priority sites

For many years now, we give a special attention to our sites located in **water scarcity areas**, or to sites facing water stress situations.

Sanofi had defined its first list of priority sites in 2015, following a Company-wide program to assess water-related risks. and to identify priority sites where actions should be implemented with no delay.

In 2020, Sanofi implemented a new program, WRAP: Water Risk Assessment Program. Its objective is to have a much more relevant analysis of the water risk of our sites. This analysis was carried out using a tool specially designed for Sanofi, supported by an external consultant. We have reviewed vulnerability and exposure of sites to water risks, considering 3 principal categories (Physical Risks, Regulatory Risks and Reputational Risks) and using information collected via survey and from WRI and WWF databases. We have now updated our list of priority sites and have a better understanding of water challenges for our sites.

As of 2020, we have identified **12 priority sites** with high water risks, covering 14% of the company's water withdrawals.

2.2.2. Environmental risk assessment

As a Company rule, every site has to manage a program to identify, evaluate, prioritize and control the impact of its past and present activities on the environment. Some specific risks on water may be directly reported by sites during these assessments: these risks will then be incorporated into a broader environmental risk matrix.

This assessment is regularly updated. An annual action plan is established and implemented to improve and control the prioritized actions identified. This plan is the environmental component of each site's global action plan (PASS). Beyond the annual plan, long-term opportunities to optimize resources and expenditures dedicated to better protecting the environment are, when appropriate, identified in the local capital expenditure action plan.

Depending on the conclusions of the environmental risk assessment and regulatory requirements, the action plan may include:

- An internal or external audit on water use, comprised of a detailed water balance and the characterization of all effluents produced by the site,
- A water withdrawal and water consumption reduction plan, based on the modernization of some equipment, of water treatment facilities or on the change in operational procedures,
- The installation of additional in-line analyzers and instruments to increase monitoring, and track efficiency.

2.2.3. Due diligence processes

During site purchasing due diligence, water intake and discharge are taken into consideration as one aspect of overall Health, Safety and Environment (HSE) actions.

Our key water concerns are related to regulatory compliance for water usage and discharge and assessment of local sensitivity.

2.2.4. Health, Safety and Environment (HSE) audits

HSE internal audits of all Sanofi facilities are led by a team of Experienced Auditors and supported by the Sanofi HSE Expertise Community.

These audits are performed over a rolling three-year program covering the entire 78 HSE internal rules and related standards. Within the scope of environmental actions, water topics are addressed in line with Company requirements on water scarcity, on water management plans and effluents management and discharge.

2.2.5. Suppliers

We acknowledge that our environmental responsibility is extended all along the **value chain** of our products, and with this purpose Sanofi is engaged in an increasing number of actions with its Suppliers and Subcontractors and now has mobilized a dedicated Taskforce to coordinate all the actions engaged by the company.

Sanofi is actively working on different initiatives to increase water security:

- **Water Stress Risks Assessment** of our key API Suppliers is a very important point for us. In 2020, a multidisciplinary workgroup (with internal and external resources) was formed to assess water risks associated with climate change and impacting our business. This year, it focused on our subcontracted activities in the southern region of Asia.
- **Onboarding** of Suppliers and Contract Manufacturing Organizations (CMOs) on good practices in water management:
As a Pharmaceutical Supply Chain Initiative (PSCI) active member, in 2020 Sanofi has invited our key API Suppliers to attend seminars in China, to inform on water related issues including the release of pharmaceuticals in the environment and wastewater treatment technologies. During 2020, we continued to progress on the program AMR, which aims to raise awareness on antimicrobial resistance, to clarify and strengthen our requirements, and to share with our Partners related good practices on risk management. In particular, we informed them of the good management of antibiotics, and the limit values for the discharge of pharmaceutical products.
- HSE Audits (internal & external) of Suppliers include questions on water and wastewater management. The risks identified are communicated to Business for decision making. Despite context of global pandemic, we have preserved activities to ensure high level of control on management of environmental risks.

2.3. Responsible management of wastewater

2.3.1. Key principles

We strive to limit any contamination of water resources by implementing efficient and reliable strategies for the management of wastewater that can contain residual of products related to our manufacturing activities.

Each site implements a specific effluents management program, based on environmental impact assessments and applicable statutory and regulatory requirements. These programs include:

- The characterization of potential pollutants and the implementation of specific solutions and, when relevant,
- The implementation of **specific solutions and technologies** to control and remove such contaminants from waters.

Depending on local conditions, applicable regulation and the type of production activities, Sanofi sites may discharge effluents into municipal facilities or may have their own wastewater treatment plant. In the end, we make sure our effluents are being properly treated before any discharge into the environment.

We dedicate ourselves to a continuous improvement of the efficiency of our wastewater treatment installations. This program is supported by continuous inspections of our sites, by lab-scale testing of existing new solutions and the upgrade of existing facilities.

In 2020, new key projects managed by our Experts would include several different topics such as enhancing biological treatment of wastewater or advanced oxidation of organic contaminants in wastewater.

2.3.2. Monitoring wastewater quality

Sanofi sites are also engaged in the characterization and the monitoring of effluents discharged to sewers or water bodies after treatment, to preserve the quality of surface waters and prevent sub-soil and groundwater contamination.

For many years now, Sanofi has been collecting data on the Chemical Oxygen Demand (COD) of effluents discharged by industrial sites. COD is the parameter most usually considered to quantify the amounts of organics in water, and so a relevant indicator of the quantity of contaminants present in our effluents.

In 2020, the residual amounts of COD released by our sites have decreased by approximately 8.6%, thanks to significant efforts on the optimization of the performances of our own wastewater treatment plants. With ongoing new projects on wastewater treatment, we expect the COD release to water bodies to continue to decrease in the next years.

For more information, see also our [Document Center: Pharmaceuticals in the Environment Factsheet](#)

3. HIGHLIGHTS

Sanofi's 2020 water withdrawals have significantly decreased this year (-5%). This performance is the result of successful initiatives directly managed by many sites, from all of Sanofi's main Industrial Activities (pharmaceutical Production, Chemistry and Vaccines).

New projects were completed in 2020, the ones presented hereafter are representative of the type of actions engaged by Sanofi to increase efficiency in water management.

3.1. Marcy-l'Etoile, France : sustainable rainwater management

Founded in 1917, the Sanofi Pasteur site of Marcy-l'Etoile, near Lyon, is one of the largest vaccines research, development, and production sites in the World. It is also Sanofi Pasteur's largest R&D platform, and a center of excellence for new vaccine projects.

Rainwater Management is always a challenge for large industrial sites, in particular at Marcy with a total surface of 40 hectares. Over the past years, the site has completed different projects to preserve to a maximum extent a natural hydrological cycle and to control the water quality of runoff.

In 2020, the "Soil Permeability" program was initiated to significantly improve the infiltration of rainwater into soils, consisting in the reduction of impervious surfaces (in particular at parking lots and walkaways) with more than 5000 m² converted this year, either into open green spaces or into permeable pavement. Efforts on rainwater management will be maintained over the next years, with specific requirements now integrated to the design of new constructions.



*Stormwater basin
Marcy-l'Etoile, France. 2020*

3.2. Vitry-sur-Seine, France: water efficiency of cooling systems

Vitry-sur-Seine is an integrated platform with activities ranging from early research to commercial production in small molecules and biotherapeutics, with a strong background on oncology.

Significant volumes of water withdrawn from wells or the Seine river are dedicated to continuously feed the water-cooling system of the site's largest Production unit. In order to limit impacts on water tables and to reduce the site's direct withdrawals from water bodies, a new cooling tower was installed along with other significant changes in the cooling water distribution system.

Commissioned early Q1, this new unit helped the site to save almost 900 million liters of freshwater in 2020, equivalent to the annual demand of a French town with a population of 20,000

3.3. Framingham, USA: reduction of the water footprint of manufacturing activities

Framingham is a biologics manufacturing site, located in the greater Boston area. The site produces two drugs, Fabrazyme® and Cerezyme®, among others. The production of these drugs requires a certain amount of energy, particularly for the cleaning operation, which requires a lot of water.

In 2019, this site implemented a second-generation continuous manufacturing for Fabrazyme which utilizes Single Use Technology. This design has significant efficiency improvements which allows for manufacturing space downscaling. This innovation has resulted in a significant reduction in water and solvent consumption. 97% reduction in media saves a lot of water and energy for Fabrazyme.

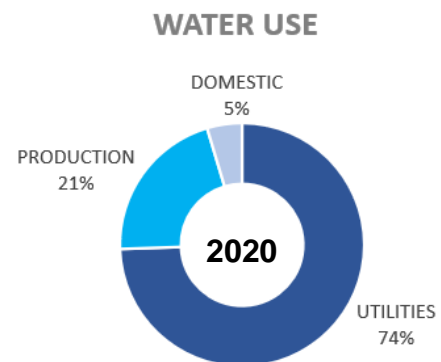
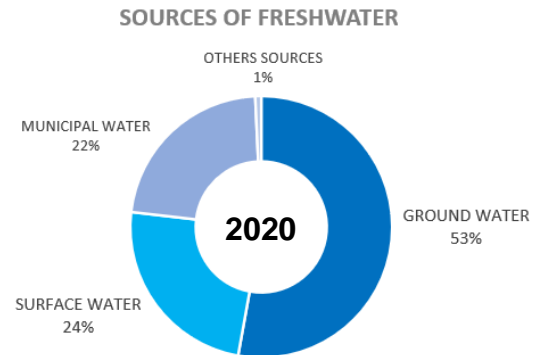
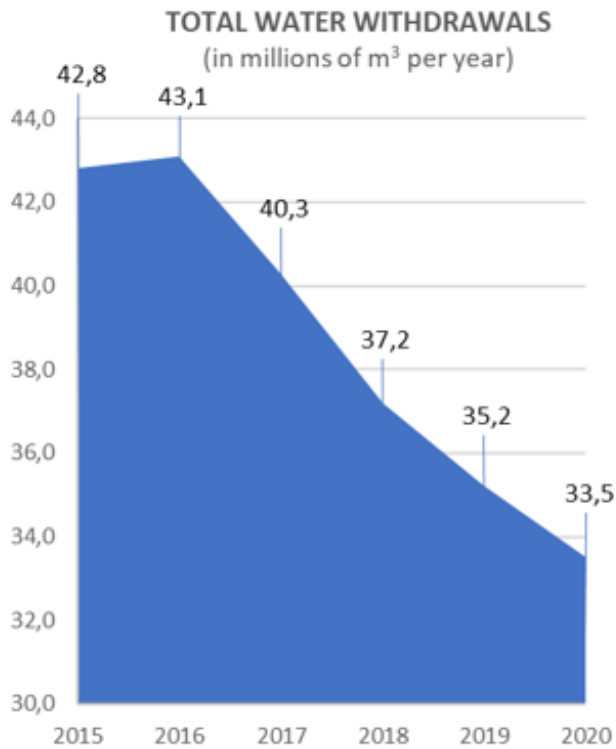
This new process will reduce water use by 91% compared to previous equipment.



Reducing Environmental Impact at Sanofi site in Framingham, USA. 2020

4. DASHBOARD

4.1. Water withdrawals & usage



4.2. Water Quality

