

WATER RESOURCE MANAGEMENT

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 2019 we have achieved:

- **33% reduction vs 2010 baseline** and 19% reduction vs 2015 baseline,
- 7% reduction vs 2018, a performance shared by more than 50 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, all sites have to implement a water management plan that includes water conservation initiatives, monitoring quality of effluents, water-related risk assessment. 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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Wastewater Treatment Plant in Sanofi site of Brindisi, Italy. 2019

1. OUR PROGRESS



Our objective

Achieve reduction in water withdrawals of

- 10% between 2015 and 2020

Global performance 2019

- 19% since 2015

- 28% on water risks priority sites since 2015

Our environmental program called **Planet Mobilization**, has defined targets to reduce water usage in all of our sites. We pay 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 matters!

In 2019, our efforts were rewarded with the score “**A-**” for the CDP Water Security 2019 questionnaire, thus having Sanofi join the Leadership band of Companies on environmental transparency, performance and action.

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 2019

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 2019, the reduction was reaching 19% compared to the 2015 baseline.

This year, our **water withdrawals have decreased by 7%** vs 2018. 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

As per our Company Standards, all sites have to implement a **water efficiency management plan** to track usage of water and identify opportunities for reducing water consumption. We have identified the following applications:

- **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 supply**, covering 22% of our total demand in 2019. 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 26% of our withdrawals in 2019. 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 52% of withdrawals in 2019. 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 2019, **volumes of water recycled have significantly increased by 27%**, which is explained by the revamping of the cooling system at Sanofi Vertolaye site (France).

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 has established in 2014 a Company-wide program to assess water-related risks and to identify priority sites where actions should be implemented with no delay. The methodology considered relies on:

- Data from a reputed Water risks Atlas, such as the AQUEDUCT Tool from the World Resource Institute,
- Surveys sent to every site, to understand the outcomes of the local context and to characterize operational issues if any
- Expertise from external Consultants, to review all the information gathered and assist Sanofi in the interpretation of the results.

First list of priority sites was published in 2015, it was later updated by the end of 2017. A general revision of the methodology and the list were initiated by the end of 2019, to increase accuracy and reliability with the identification process.

As of 2019, there are still **4 priority sites** with high water risks, covering 19% of the company's water withdrawals. The total withdrawals of these 4 sites had a significant decrease of 6.5% this year (and of 28% vs 2015).

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. 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 all the 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 **manufacturing lifecycle** of our products, and with this purpose Sanofi is engaged in an increasing number of actions with its Suppliers and Subcontractors.

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

- **Water Stress Risks Assessment** of our key API Suppliers, using methodology that is based on reputed Water Risk Atlases (for instance, AQUEDUCT). In 2019, our HSE Auditing Team has focused efforts on key API Suppliers located in China. First conclusions were shared with our Procurement Dpt. Project will be extended to other territories in a near future.
- **Onboarding** of Suppliers and Contract Manufacturing Organizations (CMOs) on good practices in water management:
 - As a Pharmaceutical Supply Chain Initiative (PSCI) active member, in 2019 Sanofi has invited our key API Suppliers to attend seminars in China and in India, to inform on water-related issues including the release of pharmaceuticals in the environment.
 - By the very end of 2019, we have initiated a new program to raise awareness on antimicrobial resistance, to clarify and strengthen our requirements, and to share with our Partners related good practices on risk management.
- HSE Audits (internal & external) of Suppliers include questions on water and wastewater management. The risks identified are communicated to Business for decision making.

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 inspections made by internal or external water treatment Specialists, lab-scale testing by our environmental analytical expertise center located in Aramon (France) or by Partners.

In 2019, projects managed by our Experts included various topics such as metals removal, enhancing nitrification of biological systems or identification of organic contaminants in wastewater.

When possible, Sanofi is also engaged in the **development of innovative solutions**, engaging partnerships with Companies from the Water sector. For instance, in 2019 we took the opportunity to evaluate a new technology for the oxidation of organic contaminants in treated effluents, in one of our pharmaceutical sites. These new approaches help us to increase our expertise and knowledge on wastewater treatment and are essential to our decision-making processes.

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 2019, the residual amounts of COD released to water bodies after treatment by Sanofi Units or external WWTPs are approximately the same as the year before, which confirms the stabilization of the good performances of our wastewater treatment facilities worldwide. With ongoing projects on wastewater treatment plants, we expect the COD release to water bodies to decrease in the next years.

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

3. HIGHLIGHTS

Sanofi's 2019 water withdrawals have significantly decreased this year (-7%). 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).

Many projects were completed in 2019, the ones presented hereafter are representative of the type of actions engaged by Sanofi to increase efficiency in water management.

3.1. Suzano, Brazil: recycling wastewater

In 2018, a brand new WWTP was installed in our Suzano pharmaceutical site, in the region of Greater Sao Paulo, to manage sanitary & industrial wastewater generated by the site and with the objective to recycle approximately 5,000 m³ of water for make-up of cooling towers. Not only the quality of effluents discharged by the site into city sewers will increase, but also the water savings will be very important.

The installations were finally commissioned by the end of 2019 and are expected to significantly contribute to the reduction of water withdrawals by the site over the next months. The different initiatives engaged since 2015 have already reduced by 25% the site's water footprint.

3.2. Origgio, Italy: increasing water efficiency of cooling systems

The Origgio pharmaceuticals manufacturing plant is located northwest of Milan, Italy. In 2019, a value engineering of the cooling water production and distribution unit (that is used to keep storage of purified water at low temperature and prevent any contamination) pointed out opportunities to optimize performances of the system.

Changes in the design and subsequent works resulted in an outstanding saving of 45,000 m³ of groundwater this first year of operation, corresponding to the reduction of site withdrawals by almost 30%.

3.3. Vertolaye, France: combined solutions

Vertolaye is an important Chemistry site, located in the heart of France's Massif Central region. The site has been engaging several initiatives on water stewardship for many years, as the installation of high-efficiency equipment for the polishing of treated water before discharge to the river, an extensive program for the management of surface runoffs and the large increase of cooling capacity of the site's closed loop cooling water system.

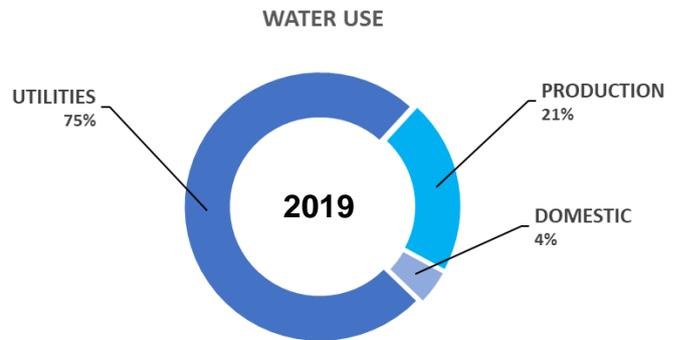
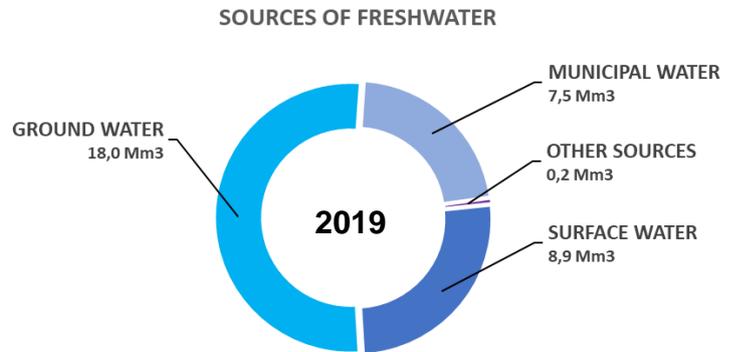
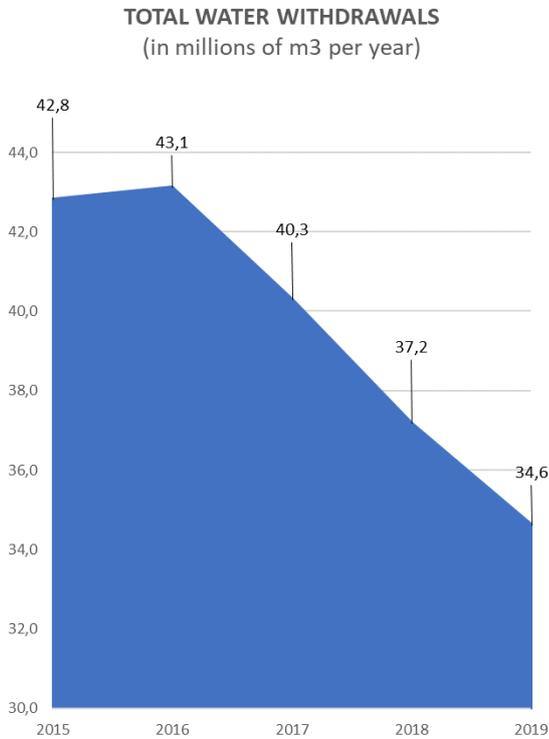
With these actions and the dedication of site personnel, the water withdrawals by Vertolaye decreased by 21% in 2019, and by 40% since 2015.



Water Treatment Facilities of our Sanofi site in Vertolaye, France 2019.

4. DASHBOARD

4.1. Water withdrawals & usage



4.2. Quality of treated water

