Soil and Groundwater Remediation

GRI Standards: ENVIRONMENT 306-3 Effluents and Waste

PLANET CARE

At Sanofi, the dedication to improving people's lives goes beyond innovations in healthcare. As a global organization, Sanofi also bears great responsibility in caring for the planet. Every day, Sanofi is minimizing the environmental impacts of its products and activities while strengthening its business resilience in the face of environmental changes.

Through the Planet Care program, Sanofi sets clear goals and is mobilizing employees, partners to join in taking action for the planet.

- ***Fight climate change****: build the road to net zero emissions by 2045 with an intermediate carbon neutrality trajectory for 2030, on a 1,5°C science based emission reduction trajectory*
- ***Limit our environmental footprint and aim for circular solutions*** *by optimizing the use/reuse of resources and reducing impact of emissions*
- ***Improve environmental profile of products by*** *delivering eco-innovative products considering and by fostering a sustainable use of medicines*
- ***Mobilize our people for environmental sustainability*** *by promoting an environmentally conscious culture in the workplace*
- ***Engage our suppliers in our environmental ambitions by*** *sourcing responsibly and leading by example*

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1. Our commitments to soil and groundwater remediation

Soil and groundwater remediation at Sanofi addresses two issues:

- Sites currently operated by the Company that may have an impact on soil and groundwater
- Soil and groundwater contamination that may exist at certain sites as a result of past industrial activities

Today's environmental and technical regulations provide a stringent set of requirements for preventing and controlling possible sources of soil and groundwater contamination, such as spills and releases to soil, water and air.

However, some sites may have been operating for many decades, during times when environmental standards were less stringent than they are today, and when knowledge about the environmental impact of industrial contamination was limited. Thus, where past contamination exists, it may represent an environmental liability that the current site owner must manage.

2. Performance

Sanofi's policy addresses the prevention of spills and releases to avoid future soil and groundwater contamination, and remediation of historic soil and groundwater contamination.

To avoid future soil and groundwater contamination, each site maintains a procedure to assess, prevent and control the potential for spills and releases to air, water and soil. Each industrial and research facility complies with regulatory soil and groundwater contamination prevention principles and good practices, as outlined in both construction and environmental standards. This includes maintaining the integrity, containment and monitoring of above-ground and underground tanks, vaults, pipelines, loading and storage areas, and sewer systems containing materials that may be hazardous to the environment. In addition, spill-control kits are included as part of the emergency spill-response program wherever hazardous or potentially harmful liquids are stored or handled.

In terms of existing historic contamination of soil and groundwater, the objective is to take appropriate steps to ensure that the affected sites do not pose undue risk for the health of employees and visitors, neighboring communities and the environment.

All remedial work is carried out in accordance with the applicable current standards and regulations, and in co-operation with local authorities. However, as a general principle, Sanofi will take action to mitigate potential risks resulting from historic contamination and may take steps beyond those necessary for legal compliance where appropriate. Once the work is completed, the remediated property can generally be authorized for industrial or office use. Some remediation projects can be allocated for possible future residential use, following the relevant standards and in co-operation with local authorities.

3. Actions

Setting up a process for remediation of contaminated sites

Today, industrial engineering standards and technical monitoring methods make it possible to prevent and avoid most risks related to sub-soil and groundwater contamination.

Nevertheless, industrial practices used at certain sites in the past, when environmental standards were not as stringent as they are today, sometimes led to soil or even groundwater contamination when facilities were located near aquifers. Today's environmental laws and regulations require Sanofi to implement investigation and eventually remediation processes for contaminated sites.

These regulatory requirements concern sites where:

- Sanofi operates
- Sanofi (or legal predecessors) operated in the past
- Sanofi (or legal predecessors) may have disposed of waste

For this reason, financial provisions are established and adjusted every year taking into account new events that may have occurred, as well as updates of environmental assessments.

Assessing the risks and conducting soil remediation

Sanofi maintains a responsible approach to managing the sites where the Company (or legal predecessors) operates or operated in the past.

The Company systematically applies a multi-year soil and groundwater monitoring and evaluation program for Sanofi properties, both for those that are currently owned by the Company, and those that were formerly owned and/or operated by Sanofi.

Sanofi relies on detailed risk evaluations of soil and groundwater contamination. These evaluations are carried out, when necessary, at the Company's sites or former sites. Remediation projects are initiated either as a request from local authorities or by Sanofi. Remediation is currently underway at over 20 Sanofi sites worldwide, as well as several other sites that have been sold to third parties, with guarantees from the Company with respect to environmental liabilities.

In total, remediation costs amounted to €33 million in 2023 (compared to a total of €38 million in 2022).

For more information, see: Form 20-F 2023, B9 section (p. 47).

Case study: Remediation of former chemistry Neuville site (France)

Site view in 2014 (before remediation) :

Site view in 2024 (remediation completed) :

Site characteristics:

- 30ha site with 15 ha dedicated to chemistry
- 20 km north of Lyon, France
- Mixed environment (industrial, undevelopped, residential)

Past situation

The Neuville-sur-Saône site has been dedicated to industrial activities since 1872, operated by several operators (including BASF, French state, Société Gignoux, and more recently UCLAF and Sanofi chimie) for various activities including dye production, production of explosives during WWI, textile activities and more recently chemistry to produce active pharmaceutical ingredients.

In 2012, Sanofi announced his intention to end chemistry activity in Neuville.

Remediation project

Dismantling, demolition and remediation project was conducted between 2013 and 2024 at the 15 ha site, by Sanofi, under the strict control of the local authorities in charge of environment (DREAL).

The site was split into 5 areas to phase the works. For each area, after demolition, dense site environmental investigations were carried out in order to identify all impacts in soil, soil gas and groundwater. In coherence with the history of industrial activities, the main contaminants were metals, solvents (essentially BTEXs[1], HVOCs[2], chlorobenzenes, MBTE[3]), hydrocarbons, and some traces of pharmaceuticals produced at the site.

Specific remediation targets were set to ensure the remediated site is fit for a new industrial use, and there is and will be no environmental risk for the off-site (residential areas, Saône river, …). Remediation fieldworks were implemented, as shown in the table :

Sector	Remediation works date	Fieldworks description
1	October 2015 – June 2016	Removal of residual infrastructures Removal of contamination sources in soil and their extension (t of contaminated soil removed) : - Sector 1 : 7 sources / 6 500 t - Sector 2 : 12 sources / 26 400 t - Sector 3 : 18 sources / 74 000 t - Sector 4 : 15 sources / 90 400 t - Sector 5 : 18 sources / 81 900 t Treatment of pumped groundwater at the bottom of excavations, localized in-situ treatment (chemical oxidation) In-situ or substitution treatment for deep soil
2	September 2016 – September 2017	
3	August 2017 – December 2019 / February – March 2022	
4	November 2018 – March 2021	
5	September 2020 – May 2023	

These remediation works resulted in the removal of a significant quantity of contaminants in all environmental compartments. Mass balances are shown in the table :

Sector	T of contaminants removed from Soil compartment	T of contaminants removed from Groundwater compartment	T of contaminants removed from Soil gas compartment
1	10	0.1	
2	49	0.5	
3	110	0.6	2.7
4	235	4.2	25.6
5	302	3.7	11.7
TOTAL	**706**	**9.1**	**40**

[1] BTEX : Benzene, Toluene, Ethylbenzene et Xylenes
[2] HVOC : halogenated Volatiles Organic Compounds
[3] MTBE : Méthyl Ter Butyl Ether

Post-remediation environmental monitoring is carried out to confirm residual site condition and deed restrictions are put in place to ensure that conditions minimizing health and environmental risks will be properly maintained in the long term at the site.

With this final phase, the remediation of the former chemistry site is considered complete. Sanofi has met all regulatory obligations related to the end of its chemistry activities and remediation of the site under the French environmental regulation.

Current situation

The site is redeveloped for vaccines activities, with a new production unit Evolutive Facility which represents a new fully digitalized evolutionary biomanufacturing facility, dedicated to tomorrow's technological platforms. It allows sanofi to increase our capacities while making production more flexible and respectful of the environment.