

PROTECTION OF THE ATMOSPHERE

GRI Standards : 305-6, 305-7: Emissions

I. BACKGROUND

Sanofi is concerned not only about carbon dioxide (CO₂) emissions, but about all air emissions responsible for impacting local air quality, including:

- Volatile organic compounds (VOCs)
- Sulfur oxides (SO_x)
- Nitrogen oxides (NO_x)
- Ozone depleting substances (ODS).

Some of our activities may be a source of air pollution:

- VOCs are primarily emitted by chemical processes and by some pharmaceutical processes involving the use of solvents.
- Fuel oils used in boilers for heating and steam production at Sanofi sites may be a source of SO_x and NO_x.
- The use of heavy fuel oil and coal can be a source of fine dust emissions.

For more information, see our Documents Center:

- Carbon Footprint: CO₂ Emissions – Scope 1&2&3 Factsheet

II. POLICY

In line with our commitment to limit emissions resulting from our activities, Sanofi's objective is to gradually reduce emissions of VOCs, SO_x, and NO_x released into the atmosphere, in compliance with European regulations. Thanks to our new environmental reporting tool, we are able obtain an accurate accounting of our footprint.

The calculation of VOC emissions at our sites is based on the solvents' mass balance by considering organic solvent consumption and end of life.

The annual reporting of NO_x & SO_x emissions is linked to liquid fuels, gas and coal consumption reported by the sites. These data are then compared to energy consumption data.

III. ACTIONS

1. VOCs

In the past, sites used different methods to calculate VOC emissions. In 2015, in order to ensure the reliability of our VOC emissions data, Sanofi changed reporting methods by sending a specific questionnaire focusing on sites that reported solvent consumption of more than five tons in 2014 (representing more than 68 sites). In 2016, Sanofi continued implementing its solvent management plan to improve solvent reporting and extended the reporting scope to all Sanofi sites. In 2017, following the audit comments, an updated release of the IS tool has been deployed. Our management plan entailed:

- An update of the VOCs standard: clearer and more pedagogical (update of Key Performance Indicators, adjustment of definitions, etc.)
- Review of guidance to help the sites comply with the standard
- E-learning and webinars to share new documents
- Annual reporting
- Improvement of the survey: clearer, more detailed, and expanded to include all Sanofi sites
- Conference calls for assistance as needed

In order to reduce VOCs, our strategy focuses on:

- Reducing emissions at the source by adapting processes and limiting the use of solvents
- Capturing and treating residual VOC emissions

To capture VOCs, Sanofi has set up and operates specific equipment in accordance with European regulations, encompassing the best available technologies:

- Equipment to condense and trap common VOCs
- Scrubbers
- Active carbon filters
- Thermal oxidizers for the VOCs that are most difficult to trap

2. SOx & NOx

SOx emissions are caused by liquid fuels and coal consumption. To reduce emissions of SOx (and also CO₂), almost all our sites have replaced coal with natural gas as their primary source of fossil fuel in boilers. The fuels are used to produce electricity for emergency generators and very occasionally for heat production. Generally, by setting up means to reduce carbon emissions, we reduce SOx emissions at the same time. Therefore, the CO₂ initiatives implemented at our sites also have an impact on SOx and NOx emissions.

For more information, see our Download Center: [Carbon Footprint: CO₂ Emissions – Factsheet](#)

To date, SOx & NOx emissions have been calculated from energy consumption using formulas developed to over-estimate emissions. Since 2016, SOx and NOx emissions are directly measured by the sites.

Emission factors for SOx and NOx were updated and adjusted for the sites that are unable to provide the measurements.

IV. KEY FIGURES

The indicators in the three tables below were reviewed by Statutory Auditors, who expressed an assurance specifically concerning these data as part of their review of the Document de référence, which addresses the new requirements of the European directive on Non-Financial Information (transposed in French law in the Déclaration de Performance Extra Financière (DPEF)). Their assurance statement, describing the work they performed as well as their comments and conclusions, is available at the end of the Document de référence 2018.

1. VOCs and solvents

Organic solvent consumption decreased in 2018 (-11%) compared to 2017. The decreasing amount of solvents used is due to the activity of one fermentation plant in France (-26 000 tons in Elbeuf).

Table 1: Sanofi's consumption of organic solvents 2017 – 2018

	2018	2017	Variation 2017 - 2018
Total solvents used (Tons)	187 085	209 168	-11%
% reuse-recycling	64%	66%	-3%

Table 2: Sanofi VOC emissions, 2016-2017

	2018	2017	Variation
VOC emissions (Tons)	3379	3403	-1%

2. NOx and SOx emissions

Table 3: NOx and Sox emitted by Sanofi

	2018	2017	Variation
NOx emissions (Tons)	424	410	flat
SOx emissions (Tons)	116	110	flat