

## PROTECTION OF THE ATMOSPHERE

### GRI Standards :

305-6, 305-7: Emissions

### EXECUTIVE SUMMARY

Some of Sanofi's chemical and pharmaceutical processes involve the use of solvents and fuel oils that may be a source of air pollution and may impact local air quality.

In line with our commitment to limit and gradually reduce our emissions of carbon dioxide (CO<sub>2</sub>), volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>), and sulfur oxides (SO<sub>x</sub>), Sanofi has developed an environmental reporting tool to accurately account our footprint, as well as to set up adapted actions on our sites and operate specific equipment to meet our objectives.

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## 1. BACKGROUND

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Sanofi is concerned not only about carbon dioxide (CO<sub>2</sub>) emissions, but about all air emissions responsible for impacting local air quality, including :

- Volatile organic compounds (VOCs) ;
- Sulfur oxides (SO<sub>x</sub>) ;
- Nitrogen oxides (NO<sub>x</sub>) ;
- 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<sub>x</sub> and NO<sub>x</sub>.
- The use of heavy fuel oil and coal can be a source of fine dust emissions.

## 2. POLICY

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In line with our commitment to limit emissions resulting from our activities, Sanofi's objective is to gradually reduce emissions of VOCs, SO<sub>x</sub>, and NO<sub>x</sub> released into the atmosphere, in compliance with regional 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<sub>x</sub> & SO<sub>x</sub> emissions is linked to liquid fuels, gas and coal consumption reported by the sites. These data are then compared to energy consumption data.

## 3. ACTIONS

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### 3.1. 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.

### 3.2. SOx & NOx

SOx emissions are caused by liquid fuels and coal consumption. To reduce emissions of SOx (and also CO<sub>2</sub>), 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 CO<sub>2</sub> initiatives implemented at our sites also have an impact on SOx and NOx emissions.

For more information, see our Document Center : Carbon Footprint : CO<sub>2</sub> 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.

## 4. KEY FIGURES

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*The indicators for VOC were reviewed by Statutory Auditors, who expressed an assurance specifically concerning these data as part of their review of the Universal Record Document , which addresses the new requirements of the European directive on Non-Financial Information (transposed in French law in the Declaration 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 URD 2019.*

### 4.1. VOCs and solvents

Organic solvent consumption slyic decreased in 2019 (-1%) compared to 2018.

Table 1 : Sanofi's consumption of organic solvents

	2019	2018
Total solvents used (Tons)	184 905	187133
% reuse-recycling	62%	64%

Table 2 : Sanofi VOC emissions

	2019	2018
VOC emissions (Tons)	3085	3373

## 4.2. NOx and SOx emissions

Table 3 : NOx and Sox emitted by Sanofi

	2019	2018
NOx emissions (Tons)	442	428
SOx emissions (Tons)	97	150

*For more information, see our [Document Center](#) :*

- Carbon Footprint (Scope 1, 2&3) Factsheet