

TRANSPORTING MEDICINES AND VACCINES

GRI Standards:

302-5, 305-5: Emissions

EXECUTIVE SUMMARY

In order to fulfil its public health mission and to ensure the delivery of medicines and vaccines to the market without interruption, Sanofi considers the supply chain and the delivery of medicines to be among the company's most important responsibilities. Protecting patients' health is a priority challenge every day, as well as reducing the company's impact on the environment and the guarantee of its products' safety. Medicines, especially vaccines and insulins, are very sensitive products which requiring very strict rules in terms of temperature all along the supply chain from production to distribution.

To address these multiple challenges regarding transportation, the Supply Chain management team within Sanofi keeps an eye on reducing environmental impacts and company's direct and indirect greenhouse gas emissions, as well as ensuring sustainable medicine transportation. This means choosing seaways instead of air transportation, developing railways transportation, optimizing truck, container and pallet occupancy, and promoting greens models such as using gas, biogas or electric vehicles whenever it is possible.

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1. BACKGROUND

As a global healthcare leader fulfilling a public health mission, Sanofi considers the supply chain and the delivery of medicines to be among the company’s most important responsibilities.

Sanofi is committed to make every effort to ensure that the supply chain will continue to deliver medicines and vaccines to the market without interruption. Protecting patients’ health is a priority challenge every day.

Distribution and transportation are the last part of the supply chain, which is dedicated to serving all patients worldwide. The supply chain’s purpose is to deliver our products in close proximity to patients and to ensure a high standard of quality.

Distribution and transportation must be performed with an eye on reducing environmental impacts by controlling CO2 emissions. Sanofi has made clear commitments to ensure a sustainable medicine transportation organization and to reduce the company’s direct and indirect greenhouse gas emissions.

1.1. Organization and network

The Transportation Department is part of the Supply Chain within Global Industrial Affairs. Sanofi’s transportation strategy is to guarantee the continuous supply of drugs and vaccines to our patients without any disruption. This global strategy has been developed and implemented throughout the company.

The Supply Chain management team is responsible for enforcing various processes on all sites where the company operates (more than 75 Sanofi plants and 100 distribution centers belonging to Sanofi or external partners), ensuring controlled processes as well as compliance with our continuous improvement policy.

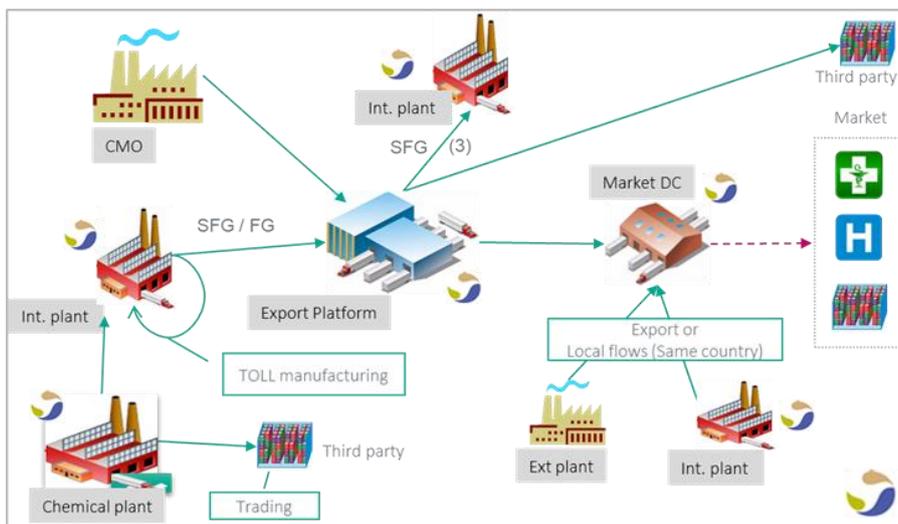


Figure 1- Our distribution organization.

1.2. Several ways to transport our medicines and vaccines

- Delivery of products between our plants: We deliver products between our chemistry plants and pharmaceuticals plants in the most optimized way, determined according to location.
- Delivery to our distribution centers: Our products are consolidated and exported from our export hub to our local distribution centers. Pallet optimization and truck occupancy are key parameters to improve the transportation of our goods. This organization enables massification associated with cost competitiveness and a sustainable strategy.
- Delivery to our customers: This includes wholesalers, hospitals and pharmacies.
- Delivery in cities (the last kilometer).
- SANOFI asks to all his partners to develop sustainable solutions such as:
 - > Alternative fuels for trucking (gas, truck electrical...).
 - > Use of ferries or River Boats, rail.
 - > Reusable cold chain packaging.

2. ACTION

- > Choose sea instead of air transportation when it's possible.
- > Increase the level of occupancy for truck and sea containers.
- > Develop railway transportation.
- > Consolidate flows and mutualize transport to reduce the number of trucks on the road.
- > Promote green models of transportation with all forwarders.

2.1. Oversea transportation: encouraging the use of sea transportation instead of air transportation whenever possible

Sea transportation is 30 times less polluting than air transportation. That is the reason why, Sanofi choose as much as possible to use sea transportation for our medicines instead of air shipments.

85%

of our intercontinental shipments are by sea

Figure 2- Percentage of sea transportation used by Sanofi from 2018 to 2020 for medicines shipments (oversea transportation).



As such, sea transportation for destinations outside Europe went from 78% in 2011 to 85% in 2020. This ratio remains flat, small variations may be observed due to geopolitical context, evolution of the products portfolio.

Moreover, new regulation for sea transportation (IMO 2020) will also contribute to decrease CO2 emissions and environmental impact. In this context, shipping lines companies are investing in the construction of new greener ships.

(Below example of the new biggest LNG power ship on the seas since December 2020)



2.2. Choosing alternatives to road transportation whenever possible

In Europe, regular flows are switched from road to rail transportation, for example from Riells (Spain) to Frankfurt (Germany).

Some projects are currently developed such as reaching some countries from France and Germany with intermodal modes (road, rail & short sea).

2.3. Complying with pharmaceutical regulation

In order to guarantee the quality of distributed medicines and vaccines, transportation has to respect very strict rules, especially in terms of temperature. In 2013, the EU implemented new Good Distribution Practices (GDP) to protect medicinal products.

The appropriate temperature must be maintained during the transportation of medicines, regardless of external conditions.

Vaccines and insulin are extremely sensitive. To respect the cold chain during the transport of these products, the temperature must be maintained between 2° and 8°C.

2.4. Develop use of Biogas & Liquefied natural gas (LNG) vehicles

NGV shuttles between Croissy and CDG

In accordance with the Group's Environmental roadmap and the commitment of the supply chain to reduce CO2 emissions linked to transportation, the Export platform at Croissy recently set up NGV (Natural Gas Vehicle) shuttles between the site and Paris Roissy Charles de Gaulle airport.

But the adventure does not stop there! The goal is to run 100% of our carriers on this journey using NGV (80% to date) and then generalize the use of bio NGV to reduce further our CO2 emissions. These actions allow us to reduce our CO2 emissions by around 90% on this route.

Biogas & Liquefied natural gas development

News more ecological transport solutions are developing, and we wish to take part in these evolutions.

We mainly use sea shipment from our sites to reduce CO2 emissions, but pre-carriage and post-carriage are done by road. To continue to improve our CO2 impact, we are working with our freights forwarders to use new technologies.

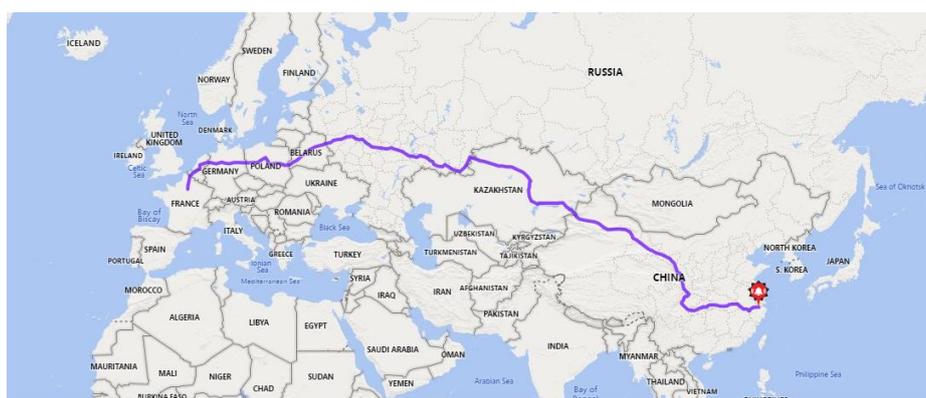


> 100 % Vegetable & biodegradable fuel > 66 % reduction in CO2 Emissions



> Liquefied natural gas > 20% reduction in CO2 Emissions

2.5. Rail to China



Sanofi Global Supply Chain and China team have launched a project in 2018 which consists in implementing a new mode of shipment between Europe and China to transport our pharmaceutical products under controlled temperatures: Rail transportation. China is Sanofi's second market,

currently delivered by air and by sea. The target is to secure this strategic market by implementing a third transportation solution in line with our environmental roadmap, with a better transit time compared to sea and a better control on temperatures and costs compared to air shipments. Tests were first carried out without products to verify the feasibility of this operation; a last test was carried out at the end of 2019 with products.

We started to use in routine mode rail shipment from Croissy DC (France) to Hangzhou (China) since April 2020.

We will continue to increase the number of deliveries in 2021.

For more information about our CO₂ emissions, see in our [Document Center](#):

- *Carbon Footprint (Scope 1,2 & 3) Factsheet.*
- *Sanofi's risks and opportunities related to Climate Change Factsheet.*