MINISTRY OF ECOLOGY TRANSITION AND TERRITORIAL COHESION

Liberté
Égalité
Fraternité

DATA Key LAB

ENVIRONNEMENT

French trade exchanges in secondary raw materials from 1999 to 2021

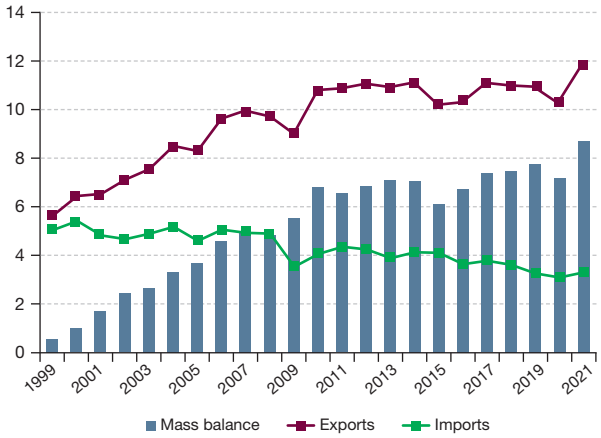
JUNE 2022

On the international market for recoverable waste, France had a trade surplus of €4.5 billion in 2021. French exports are comprised of 60% ferrous scrap metal and 22% paper and cardboard. France is Europe's biggest net exporter in quantitative terms. It exports mainly to European border countries. China, its trade partner ranking seventh in terms of volume in 2017, went down to fifteenth place in 2021.

The extraction of raw materials that are vital to the manufacturing of consumer goods generates high environmental and climatic costs. According to the circular economy principle, secondary raw materials (SRM) help preserve resources by taking the place of virgin materials and hence reducing the dependence of France and, more generally, of the European Union, on such materials. Integrating SRM into the production sectors is also a means of finding outlets for products that become useless before reaching the end of their life cycle. The flow of SRM in foreign trade is largely determined by the location of the production plants that use these materials.

STRONG INCREASE IN EXPORTS OF SECONDARY RAW MATERIALS OVER THE LAST 20 YEARS

Graph 1: foreign trade in SRM*, by volume
In millions of tonnes



** Secondary raw materials.*
***Source**: Customs. Data processing: SDES, 2022*

BOX

Secondary raw materials and recoverable waste

In most recycling sectors, with the exception of plastics, recoverable waste import and export declarations use the same customs code for unprocessed waste (e.g. scraps of glass) and for waste that has been transformed into SRM (e.g. cullet for glass).
In the case of plastics, beyond sorting and baling, waste materials can, once sorted, undergo a regeneration process that transforms them into fragments, granules or powder to be directly reused by plastics manufacturers. These regenerated materials resemble virgin raw materials and share the same customs code, while waste that has not been regenerated is traded under a different code. This means that data pertaining to plastics concerns only waste materials and not regenerated materials.
For the sake of simplicity, the terms 'secondary raw materials', 'SRM' and 'recoverable waste' have been used indifferently as substitutes for ' non-hazardous recoverable waste and secondary raw materials'.
Eight categories of recoverable waste are considered: ferrous metals, non-ferrous metals, precious metals, paper & cardboard, plastics, rubber, textiles and glass.

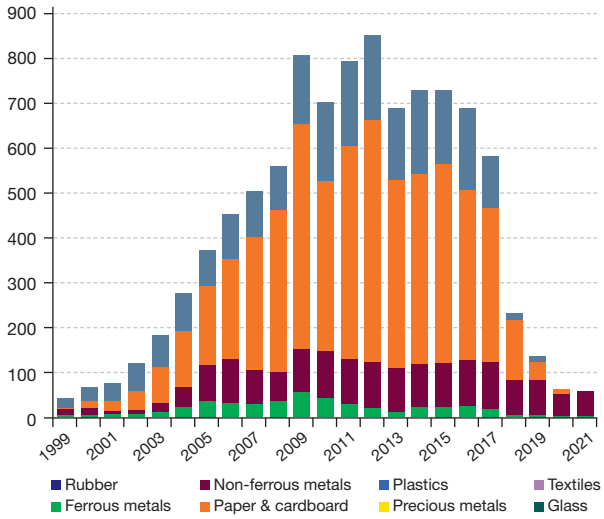
For the period 1999-2010, SRM exports from France to other countries marked a sharp rise, virtually doubling with an increase from 5.6 million tonnes (MT) to 10.8 MT (*graph 1*). From 2010 to 2019, they remained relatively stable (around 10.8 MT), then dropped by 7% in 2020 because of the pandemic, before rising again to reach a record 12 MT in 2021 (up 17%).

Conversely, imports fell by 2% per year over the same period, from 5.1 MT in 1999 to 3.3 MT in 2021 (*graph 1*). The overall SRM trade balance is positive at 8.6 MT in 2021, having fluctuated around the 7 MT mark during the 2010s.

This trade flow depends very much on the international context. It is influenced by multiple factors like public policies (prevention, taxation, eco-design, recycling targets and so on), industrial strategies and the price of raw materials and energy. Indeed, the general tendency was suddenly disrupted following the global crises of 2008 and 2014. Other factors can also affect trade, such as the intensity of economic growth, the cost of recycling, and processing capacity.

At the end of 2017, the international recoverable waste market was turned upside down when China imposed trade barriers on its importations of several categories of recoverable waste, in order to reduce the impact of its handling on the environment and on public health. For certain waste materials previously exported to China, new outlets had to be found in other Asian countries (India, Indonesia, Malaysia, Thailand and Vietnam) which in turn restricted their imports. This downturn concerned plastics in particular, but also paper, for which the average selling price per tonne fell from €148 in 2017 to €103 in 2019. In 2017, China's purchases were 59% paper, 20% plastics and 18% non-ferrous metals. In 2021, the ratios for paper and plastics became negligible (*graph 2*).

Graph 2: evolution of SRM export volumes to China
In millions of tonnes



** Secondary raw materials.*
***Source**: Customs. Data processing: SDES, 2022*

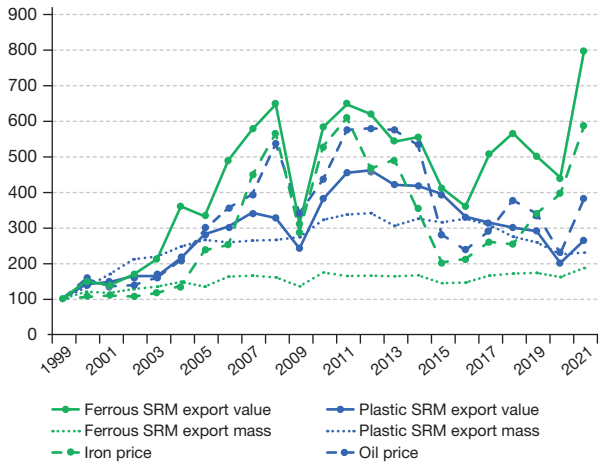
A 4.5 BILLION EURO SURPLUS IN 2021

Between 1999 and 2019, SRM exports rose from €1 billion to €4 billion (in current euros). After falling to €3.6 billion in 2020, they jumped to €6.2 billion in 2021 under the combined effect of price rises and increased export volumes, and accounted for 1.2% of all goods exported in 2021 (€501 billion). Since 1999, SRM exports have increased five times faster than goods exports overall: an annual increase in value of 8.1% since 1999, compared to 1.6% for goods overall.

With imports at €1.7 billion, the SRM balance of trade reached €4.5 billion in 2021, considerably higher than the figures achieved during the 2010s.

Price levels for SRM and virgin raw materials are closely correlated. Fluctuations in the prices of basic materials affect the cost of the SRM used to replace them, which explains why the evolution of trade is more uneven in value terms than in volume terms (*graph 3*).

Graph 3: evolution of export values and volumes for ferrous metal and plastic SRM in comparison with iron and oil prices
Index base 100 in 1999

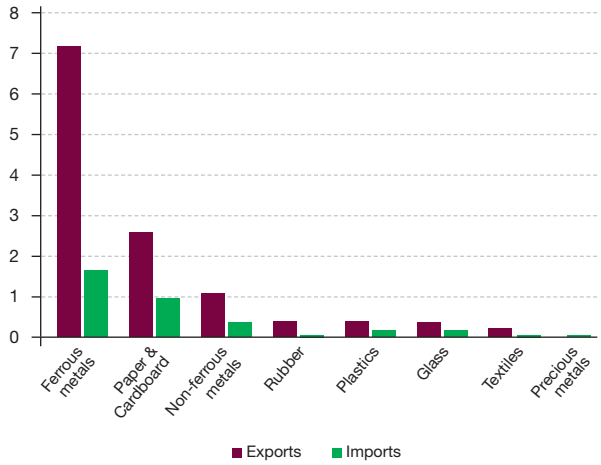


** Secondary raw materials.*
***Source**: Customs, www.indexmundi.com. Data processing: SDES, 2022*

FERROUS METALS ACCOUNT FOR THE MAJORITY OF SRM TRADE

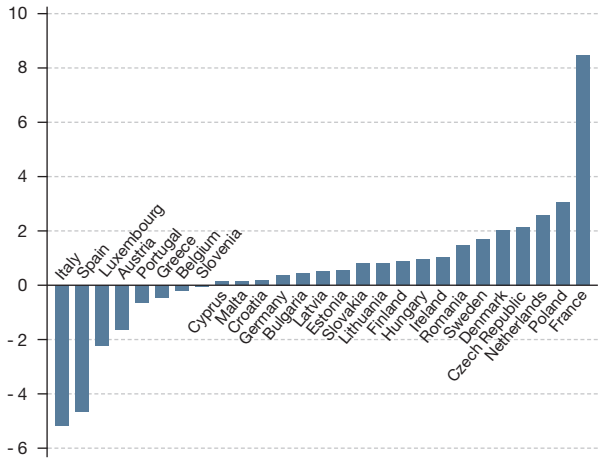
The breakdown of exports is similar to that of imports (*graph 4*). Ferrous metals are the main SRM sold, in terms of both quantity (60%) and value (45%). Scrap metal exports represent a little over half of that collected across France. Paper and cardboard come second at 22% of SRM exports. Next come non-ferrous metals at 9%. Although precious metals form only a tiny share of the quantity, they rank third in value terms because of their very high price. Glass is a heavy and inexpensive material with proportionately high transportation costs, which is partly why it accounts for only a low level of trade.

Graph 4: SRM quantity traded in 2021, per waste category
In millions of tonnes



** Secondary raw materials.*
***Source**: Customs. Data processing: SDES, 2022*

Graph 5: SRM trade balance in 2021, per country
In millions of tonnes



** Secondary raw materials.*
***Source**: Eurostat*

The availability of recoverable waste and SRM depends, among other factors, on the quantity of waste generated. In 2020, the health crisis affected the quantities collected, which had a heavy impact on the industry due to stopped production lines and construction sites, the closure of waste collection site and sorting center, and the fact that people were unable to get to the voluntary waste drop-off receptables during the lockdown period. Because of this, exports of all categories of waste fell in 2020, before increasing again in 2021, albeit in varying proportions. Hence, the quantities of ferrous and non-ferrous metals increased by 16% and 21% respectively, after a 7% decrease between 2019 and 2020. Exports of textile waste increased by 28% in 2021 after falling by 18% between 2019 and 2020. As for cullet exports, these more than doubled in 2021 (up 130%), having dropped by 12% in 2020. Indeed, the 2020 health measures led to a decrease in the sales of bottled wine both in France and on the export market, which in turn resulted in a drop in demand for empty bottles. In the same period, an increase in the volume of glass collected from households made up for the lower quantities retrieved from cafés, hotels and restaurants. To avoid the need for storage, collected glass that was not taken up by the glass-making sector was exported to neighbouring countries, with a significant reduction in the recovery price, approximately 30% down.

FRANCE, EUROPE'S BIGGEST NET SRM EXPORTER IN QUANTITATIVE TERMS

With an SRM trade balance of 8.6 MT in 2021, France is the biggest net exporter of SRM in Europe. Many other European countries also have a positive trade balance, including Poland, the Netherlands and Czechia (*graph 5*). Italy, Spain and, to a lesser extent, Luxembourg and Austria, on the other hand, are net importers due to their substantial purchases of ferrous metals (Italy 6.5 MT, Spain 4.1 MT and Luxembourg 2.2 MT) and of paper (Spain 2.0 MT and Austria 1.7 MT).

MAJORITY OF TRADE WITH NEARBY COUNTRIES

In 2021, France was the third biggest European exporter of SRM (11.9 MT), after Germany (13.7 MT) and the Netherlands (12.0 MT). French exports represent 15% of the European Union's exports (EU of 27). France exports to 161 countries (*map 1*), and imports from 114 countries.

The EU of 27 is the main destination of French SRM exports, in terms of both quantity (83% of sales) and value (84%). Together, Spain, Belgium and Germany take up half of French exports in terms of both value and mass. The East Asian share of exports (China, India, Malaysia, Japan, Korea, etc.) declined between 2017 and 2021, falling from 7% to 3%. China, which in 2017 was our 7th biggest trade partner in volume terms (5% of exports), ranked only 15th in 2021 (0.5%). During that period, exports to China decreased by 46% in value and by 90% in mass.

Scrap metal was sold mainly to Belgium (26%), Spain (26%), Luxembourg (12%) and Turkey (10%). The more electrical steelworks a country has, the more ferrous waste it uses. In Turkey and Spain, for instance, electrical steelworks plants produce 75% of the country's steel, unlike Germany where blast furnaces are more common. Paper and cardboard are exported to Spain (54%) and Germany (21%). The latter, despite being the leading paper & cardboard producer in the EU of 27, has only limited availability of wood. Finland and Sweden, on the other hand, can rely on virgin wood pulp thanks to the substantial forestry resources in these countries. Non-ferrous metal waste is sent mostly to Spain (25%), Belgium (20%), Italy (16%) and Germany (11%).

84% of French SRM imports come from within the EU of 27, and 14% from other European countries. The main suppliers are Germany (37%), Belgium (22%), United Kingdom (7%), Spain (7%) and Switzerland (6%).

BOX

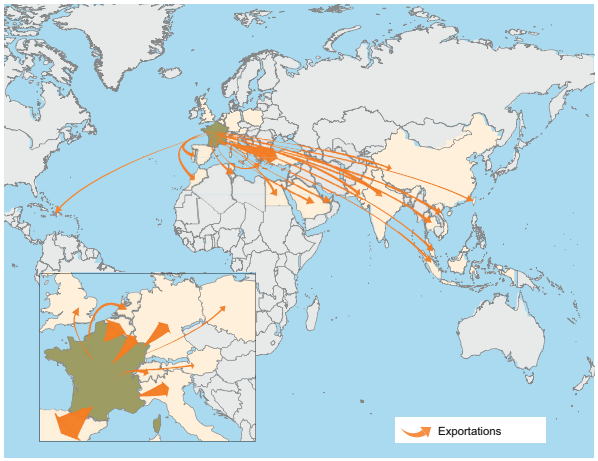
Processing capacities in Europe

In June 2019, a report issued by the European Commission on the needs for investment in the waste sector[1] estimated that in 2020 Europe would need reprocessing capacity for an additional 2.7 million tonnes in order to handle the plastic waste currently exported out of Europe. In terms of glass, metal, paper and cardboard, existing capacity is deemed sufficient and investment requirements concern only waste collection systems.

As for textiles, the tonnage collected is expected to increase due to the obligation for Member States to implement separate collection systems by 2025. Investment is therefore required in order to develop new sorting procedures and chemical recycling technologies that will make it possible to use end-of-life textiles of poor quality as raw materials for the production of virgin-quality textiles.

For the period 2021-2027, France, Italy, Germany, Poland and Spain are the Member States most in need of additional waste reprocessing facilities (especially for plastics and textiles).

Map 1: destinations of French SRM* exports in 2021



** Secondary raw materials.*
NB: trade flows in excess of 10,000 tonnes.
***Source**: Customs. Data processing: SDES, 2022*

METHODOLOGY

French foreign trade data comes from Customs data bases. Only goods that actually enter or leave the domestic economy are taken into account, with the exception of imported merchandise that is directly reexported without transformation. This data source does not allow us to determine with any certainty the final destination of exported waste materials, as the destination may be a transit country.

Under international norms, the statistical value is the cost-insurance-freight (CIF) price of imported goods crossing the French border, or the free-on-board (FOB) value in the case of exports. These values exclude all tariffs, taxes and excise duties.

The European statistics come from Eurostat data on international trade in goods.

Transactions falling below the intra-EU trade statistical threshold are not included in the data broken down by product and by country. Since 1993, this threshold has been raised periodically. It has remained at €460,000 since 2011.

The 8-digit code combined nomenclature (CN8) was used to select SRM-related transactions in the customs services' harmonised system (HS): rubber (4004, 4012), ferrous metals (7204), non-ferrous metals (2620, 4115, 7404, 7503, 7602, 7802, 7902, 7903, 8002, 8101, 8102, 8103, 8104, 8105, 8106, 8107, 8108, 8109, 8110, 8111, 8112, 8113), precious metals (7112), paper & cardboard (4707), plastics (3915), textiles (6309, 6310) and glass (7001).

TO FIND OUT MORE

- *Recycling – secondary raw materials price indicator*, Eurostat

Chrystel Scribe, SDES

[1] *European Commission, Directorate-General for Environment,* Study on investment needs in the waste sector and on the financing of municipal waste management in Member States, *Publications Office, 2019.*

Legal submission: June 2022
ISSN: 2557-8510 (online)

Head of publication: Béatrice Sédillot
Chief Editor: Hugues Cahen
Editorial coordination: Céline Blivet
Cartography: Antéa
Design and production: Agence Efil, Tours

General Commission for Sustainable Development
Data and Statistical Studies Department
Subdirectorate for Environmental Information
Tour Séquoia - 92055 La Défense cedex
Email: diffusion.sdes.cgdd@developpement-durable.gouv.fr

www.statistiques.developpement-durable.gouv.fr

MINISTRY OF ECOLOGY TRANSITION AND TERRITORIAL COHESION
Liberté Égalité Fraternité

STATISTIQUE PUBLIQUE