# Colissimo Box – $CO_2$ calculator

## Methodology

Version dated 02/10/2024

colissimo

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# Introduction

As a pioneer in communicating the carbon footprint of parcels, and striving for transparency in the information provided to its customers, La Poste – Colissimo has provided a Parcel $CO_2$ Calculator since 2013, on the "Colissimo Box" corporate customer area.
This calculator shows the monthly $CO_2$ emissions of parcels entrusted to Colissimo (based on the number of parcels invoiced), and produces an annual $CO_2$ Certificate for each customer account or sub-account (available in February for the previous year).

Always keen to better support its customers in their decarbonization efforts, La Poste and its Geopost (Chronopost and DPD) and Parcels Mail Services divisions have decided to go one step further and upgrade their calculator to apply the Smart Freight Centre's recommendations for $CO_2$ calculations.

In 2023, La Poste – Colissimo has launched a project to overhaul its $CO_2$ calculator with three objectives:

- Its determination to remain one of the pioneers in CSR communications, and in particular its carbon footprint.
- The introduction of standards for calculating $CO_2$ emissions in line with national, European and international standards.
- The inclusion of new data more representative of the parcel's journey.

After an initial overhaul in 2023, the Parcel $CO_2$ Calculator has just undergone a new wave of developments, focusing mainly on the calculation aspect, adopting a calculation method accredited by the Smart Freight Centre (SFC) in accordance with the GLEC[1] framework, itself based on the ISO 14083 environmental standard.

The $CO_2$ Calculator 2024 features a number of changes to the calculation process:

- TTW and WTW $CO_2$ emissions calculation revised and made more accurate
- The inclusion of empty mileage, which results in a 20.48% increase in road distances in the formulas for calculating $CO_2$ emissions per section
- The use of SFC emissions factors for fossil fuels (diesel, CNG and LNG) and ADEME emissions factors updated to 2024 for air transport and biofuels (Bio CNG and Bio LNG)
- The inclusion of the logistics buildings scope in the "Other" section, without taking into account business travel

[1] Global Logistics Emissions Council Framework For logistics Emissions Accounting and Reporting V3.0, September 2023

The 2024 $CO_2$ Calculator features changes in the restitution section:

- Changes to comply with the GLEC framework:
  - Display of total distances covered by a customer's parcels
  - Provision of "tonne-kilometres", a logistical quantity measuring the transport of one tonne of parcel over one kilometer, thus quantifying the environmental impact of the transport of parcels aggregated for a given customer
  - Providing clean emissions for the last mile

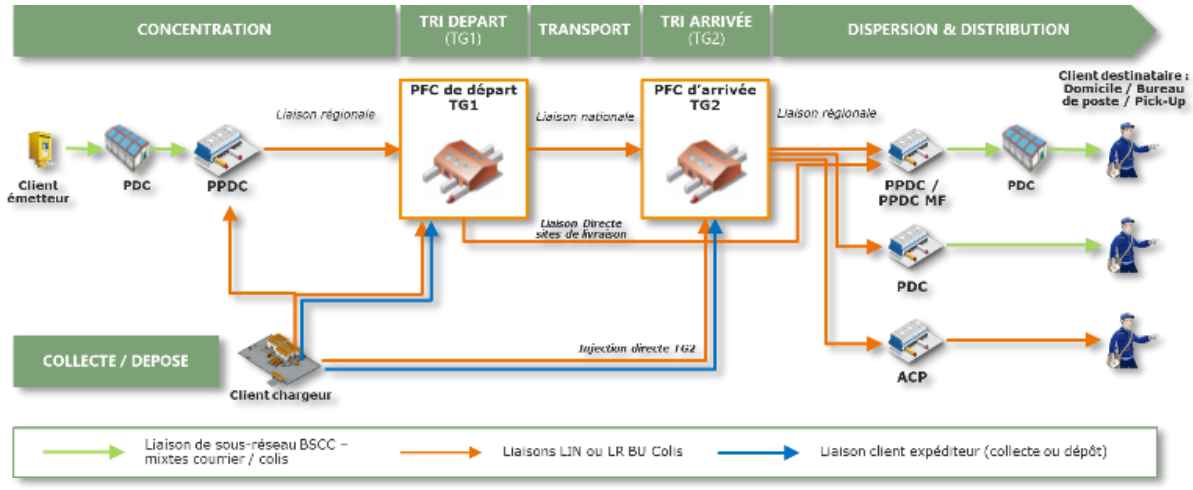
- Cross-functional interface developments:
  - Enhanced user experience with the introduction of a dynamic filter to display $CO_2$ emissions (and other indicators) according to the period selected by the user
  - Provision of data on aggregate parcel volumes for parcels linked to a given customer
  - New CSV extraction file layout in English and French

## For further information, description of calculation methods

### Parcel journey

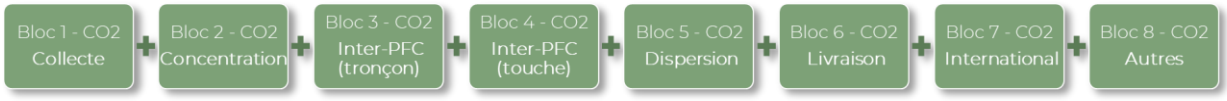
The $CO_2$ calculator reconstructs the parcel's route as faithfully as possible.

Below is a diagram of the possible journeys taken by parcels during their processing by Colissimo:




The route taken by each parcel is tracked by scanning the individual parcel at each stage (Track and Trace system)

To make the calculations easier, the formula has been broken down into 8 blocks, corresponding to all the possible stages and sections a parcel might pass through:




To obtain the total $CO_2$ emitted by a parcel, the $CO_2$ for each parcel in the 8 blocks below must be added together.
For example, 1 parcel sent from mainland France to metropolitan France will not be assigned an international $CO_2$.

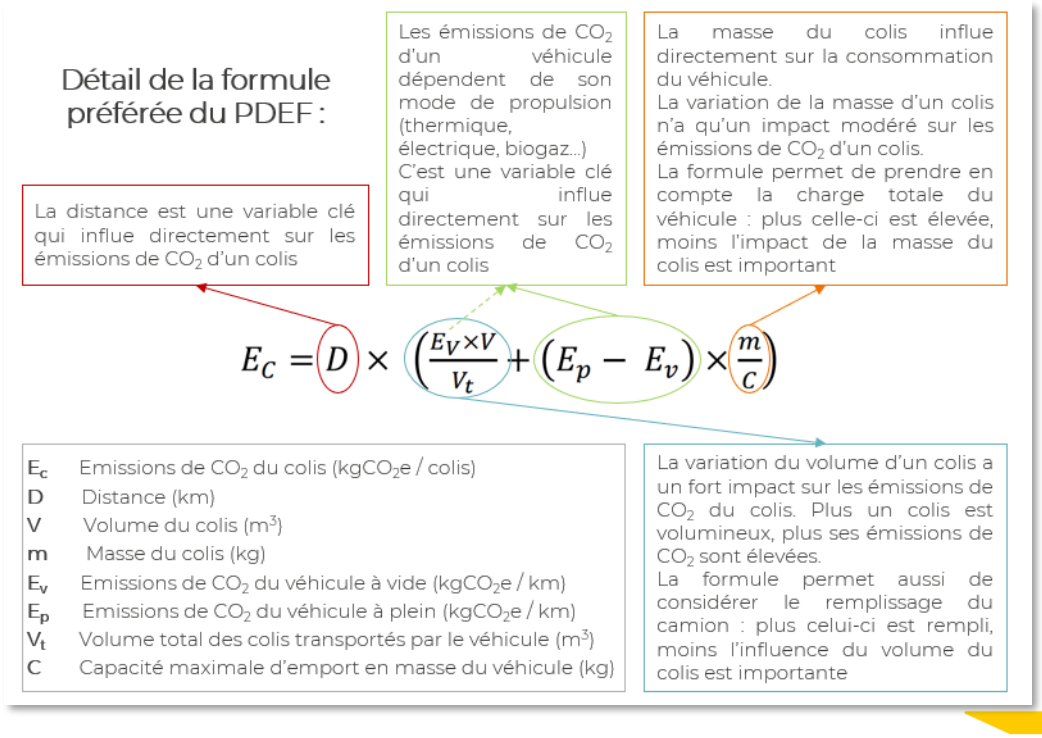
Special cases:

- In cases where parcels are dropped off at TG2 PSH, blocks 1, 2 and 3 are not considered.
- If parcels are dropped off at DDU (directly at PPC, MPDH or distribution MDH), then blocks 1, 2, 3 and 4 are not considered.

## Calculation formula

The calculation formula used is the **recommended and "preferred" Parcel Delivery Environmental Footprint (PDEF)** formula .

This is a standard (EN17837) validated by the European Committee for Standardization (CEN), proposing methodologies for calculating and declaring the greenhouse gas (GHG) emissions of parcels, based on the Global Logistics Emissions Council (GLEC), a voluntary partnership of logistics organizations and industry associations led by the Smart Freight Centre (SFC).



Due to the availability of data, this calculation formula is not used in full on all sections (a simplified version is used on some sections, see details of calculations).

The principle of the calculator is to calculate $CO_2$ emissions on a unit basis for each parcel, and then to sum up the emissions of all the parcels of a customer.

Most of the parameters used in the above formula are calculated by averaging them over the previous year and over the linehauls concerned:

- Average distances (increased by a multiplying factor that takes empty kilometers into account)
- Average weight of trucks using the linehaul
- Vehicle energy and consumption (excluding the last mile)

The data used for the current year are the specific characteristics of the parcel (mass and volume) and the energy class of the vehicle used for the last mile.
If the "mass" or "volume" data is missing for a parcel, the customer's own average data is used.

## Data used

The calculator uses the following data:

| Données | Description | Source |
|---|---|---|
| Données générales CO2 | • Facteurs d'émission par véhicule et par énergie en Tank-to-Wheel et en Well-to-Wheel<br>• Consommations des véhicules moyennes, à vide et à plein | ADEME, GLEC, GHG Protocol, Direction RSE La Poste, Direction Transport La Poste |
| Données colis | • Masse des colis<br>• Dimensions des colis → Volumes<br>• Données de flashage de tous les colis, relatives à leur parcours | Extraction du système d'information industriel Colissimo |
| Données transport | • Toutes les liaisons transport jour par jour<br>• Camions utilisés sur chaque liaison<br>• Emport sur chaque liaison<br>• Mix énergétique (Diesel, GNC, GNL, BioGNC, biocarburants, électrique, hydrogène) | • Extraction du TMS transport La Poste<br>• Reporting CO2 annuel La Poste |
| Données livraison (dernier kilomètre) | • Longueur des tournées de distribution en fonction de la densité, du code postal et du site de départ (ACP ou PPDC/PDC)<br>• Emport moyen sur chaque tournée<br>• Consommation moyenne des véhicules | Modélisation réalisée par l'entité nationale livraison (DDIOOP) La Poste |
| | Pour chaque colis, l'identification de la classe énergétique (thermique, électrique ou vélo-cargo) du véhicule effectuant la livraison | Requête au service client La Poste |
| Données bâtiments | Consommation d'énergie et émissions de CO2 associés aux bâtiments logistiques | Rapport extra-financier / La Poste Immobilier |

## Details of block 1 – Collection $CO_2$

Due to incomplete scanning data upstream of PSH 1, it is difficult to distinguish between collected and concentrated flows. As a result, $CO_2$ collection TTW and WTW are considered zero by default, and the total [collection + concentration] is calculated in Block 2 – $CO_2$Concentration.

## Details of block 2 – Concentration $CO_2$

All concentration and collection linehauls are identified by:

- A departure from any customer or postal site (excluding PSH)
- An arrival at a PSH

For the previous year, we calculate the TTW and WTW $CO_2$ emissions corresponding to all these routes (based on the kilometers covered on each route and the vehicle that covered them), then relate these emissions to the parcel.

These constants from the previous year ($CO_{2tm1}$ and $CO_{2tm2}$ respectively for TTW and WTW) are used to calculate the $CO_2$ concentration of the 2024 parcel:

$$CO_2\ Concentration\ TTW = CO2_{tm1} * \frac{V_c}{V_{tm}} * C_m$$

$$CO_2\ Concentration\ WTW = CO2_{tm2} * \frac{V_c}{V_{tm}} * C_m$$

With:

- $CO_{2tm1}$, $CO_{2tm2}$ average $CO_2$ for a parcel in the concentration/collection phase over the previous year in TTW and WTW respectively
- $Vc$: the volume of the parcel concerned in the current year
- $Vtm$: the average volume of a parcel in the concentration/collection phase over the previous year
- $Cm$: Multiplier coefficient for unladen distances (of the order of 1.2048)

As the scanning data is incomplete, it is not possible to identify which parcels have been concentrated/collected by Colissimo. As a result, the emissions of the Concentration block are spread over all the parcels (except those that are not concerned, such as TG2 or DDU depots).

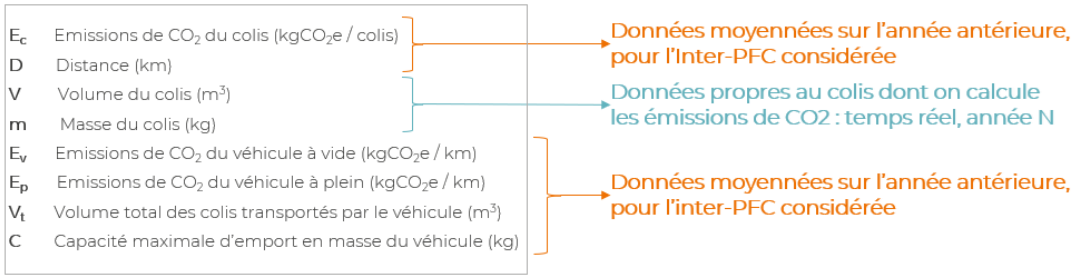
## Details of block 3 – Inter-PSH $CO_2$ (section)

On this section, all the scanning data exists: in almost all cases, the parcel is scanned when it passes through the PSH.
The calculations were carried out for each pair of directed inter-PSHs: this means that the data considered is specific to each linehaul and each linehaul direction: this may be different between PSH 1 to PSH 2 and PSH 2 to PSH 1.

For each directed inter-PSH, the preferred PDEF formula was used as follows:

$$E_C = D \times \left(\frac{E_V \times V}{V_t} + \left(E_p - E_v\right) \times \frac{m}{C}\right)$$

Choix effectués par l'équipe projet Colissimo :




The calculation formulas applied to the sections in question take into account constants relating to the $CO_2$ emissions of the trucks transporting the empty and laden parcels, as well as their maximum loads and the average increased distance on the section

These formulas are used to calculate TTW and WTW emissions and are defined as follows:

$$CO_2\ InterPSH\ section\ TTW = D_{tm} * C_m \left(\frac{E_{tvm1} * V_c}{V_{tm}} + (E_{tcm1} - E_{tvm1}) * \frac{M_c}{C_{tm}}\right)$$

$$CO_2\ InterPSH\ section\ WTW = D_{tm} * C_m \left(\frac{E_{tvm2} * V_c}{V_{tm}} + (E_{tcm2} - E_{tvm2}) * \frac{M_c}{C_{tm}}\right)$$

With:

- $D_{tm}$ = Average distance on the Inter-PSH section of the parcel (km)
- $C_m$ = Multiplier coefficient for unladen distances (of the order of 1.2048)
- $E_{tvm1.2}$ = Recalculated emission (considering the national vehicle energy mix) of average unladen $CO_2$ TTW and WTW on the vehicle's Inter-PSH section ($gCO_2$/km)
- $E_{tcm1.2}$ = Recalculated $CO_2$ emission at average load TTW and WTW on the vehicle's Inter-PSH section ($gCO_2$/km), (considering the national vehicle fuel mix)
- $C_{tm}$ = Average maximum truck load on the Inter-PSH section of the Parcel (kg)
- $V_{tm}$ = Average volume of a parcel on the Inter-PSH section of the Parcel (m3)
- $V_c$ = Parcel volume (m3)
- $M_c$ = Parcel weight (kg)

## Details of block 4 – Inter-PSH $CO_2$ (contact)

Of the 21 PSHs (block 3), 2 qualify as PSHs with contact: this means that they have one or more sub-contractor sites (involved in sorting the parcels) nearby. For the $CO_2$ calculator, we considered a single unit [PSH and subcontractor(s)].

In order to take into account the transport kilometres travelled between the PSHs concerned and their sub-contractor sites, it is necessary to calculate an Inter-PSH $CO_2$ contact, which is then allocated uniformly to all the parcels that have passed through the set [PSHs and sub-contractor(s)].

The additional $CO_2$ is calculated from the sum of the distances travelled over the previous year between the PSH and its sub-contractor(s) and according to the vehicles used on these linehauls.

The distance used in this calculation is increased by 20.48% to take account of empty kilometers.

$$CO2_{PSH\ departure_{target}}TTW = \frac{\sum\left(CO_2\ destributed\ InterPSH\ section_{PSH\ departure_{target} \rightarrow PSH\ departure_{target}}\ TTW\ * Coefficient\ multiplier\right)}{card\left(Parcels\ of\ which\ PSH\ departure = PSH\ departure_{target}\right) + card\left(Parcels\ of\ which\ PSH\ arrival = PSH\ departure_{target}\right)}$$

$$CO2_{PSH\ departure_{target}}WTW = \frac{\sum\left(CO_2\ destributed\ InterPSH\ section_{PSH\ departure_{target} \rightarrow PSH\ departure_{target}}\ WTW * Coefficien}{card\left(Parcels\ of\ which\ PSH\ departure = PSH\ departure_{target}\right) + card\left(Parcels\ of\ which\ PSH\ arrival\right.}$$

## Details of block 5 – $CO_2$ Dispersion

The dispersion section corresponds to the path followed by the parcel between the last PSH through which it passed and its distribution site (PPC or MPDH / MDH).
Parcel tracking data can be used to trace these two scanning points.

However, it is not always possible to trace the entire journey taken by the parcel (for example, when it passes through intermediate sites and part of the load is unloaded).

We use the PDEF formula below to calculate TTW and WTW emissions respectively:

$$CO_2\ Dispersion\ TTW = \frac{D}{D_{tm}} * Coefficient\ multiplier * \left(C_{tm1} * \frac{V_c}{V_{tm}}\right)$$

$$CO_2\ Dispersion\ WTW = \frac{D}{D_{tm}} * Coefficient\ multiplier * \left(C_{tm2} * \frac{V_c}{V_{tm}}\right)$$

With:

- $D$: approximate distance covered by the parcel (km)
- $D_{tm}$: average distance covered by a dispersed parcel (km)
- $C_{tm1.2}$: Average $CO_2$ per TTW and WTW dispersed parcel
- $V_c$Volume of parcel ($m^3$)
- $V_{tm}$ average volume of a dispersed parcel (m3)

Where:

- Dare road distances [PSH – Distribution site] for all possible pairs. Where this is not available in La Poste's reference systems, it is modelled using the Haversine formula (distances as the crow flies, then converted into road distance by multiplying by 1.35)

- $D_{tm}$, $C_m$ and $V_{tm}$ are calculated for year N-1, on the basis of transport data and links identified as being dispersed
- $V_c$ is a measured value specific to the parcel

## Details of block 6 – Delivery $CO_2$

The Parcel $CO_2$ calculator recovers the energy class of the vehicle used in the last mile, for the delivery of each parcel: every day, a correspondence is established between the parcel delivered and the energy class of the vehicle that transported it: carbon mode / electric mode or soft mode (cargo bike, pedestrian).

The formulas used to calculate TTW and WTW $CO_2$ emissions respectively are:

$$CO_2\ Delivery\ TTW = CO2_{tm1} * \frac{V_c}{V_{tm}} * coefficient\ multiplier\ delivery$$

$$CO_2\ Delivery\ WTW = CO2_{tm2} * \frac{V_c}{V_{tm}} * coefficient\ multiplier\ delivery$$

Once again, only the variable $V_c$ is specific to each parcel. All other variables depend on the family to which the delivery site belongs.

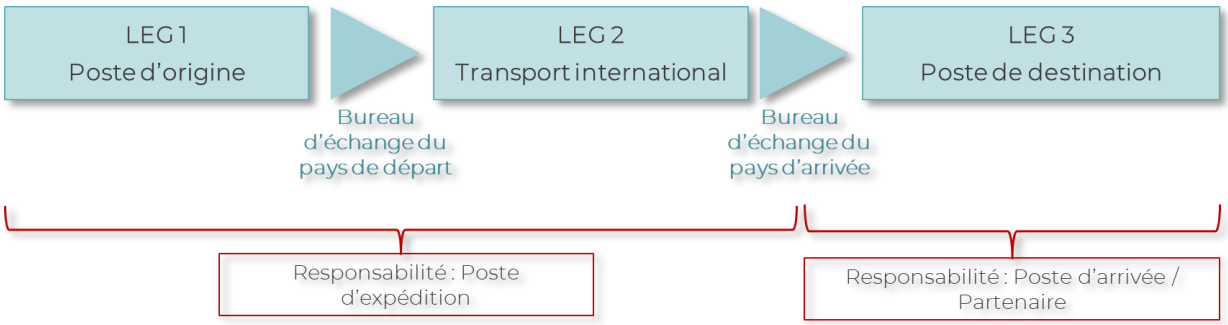
- $CO_{2tm1,2}$: calculated $CO_2$ emissions for the TTW and WTW round
- $Vtm$: average volume of parcels transported on the round
- $Vc$: Specific volume of the parcel

At certain sites, where subcontractors operate, the distance travelled is increased (with a multiplying factor of 1.123) to take account of unladen kilometers, in line with the GLEC framework.

## Details of block 7 – International $CO_2$

This block covers all imported and exported parcels, as well as parcels to and from the French Overseas Departments and Territories and Corsica.

As a reminder, here is a diagram of the route taken by international parcels, whether for import or export:



Reminder of the scope covered by international shipping and the $CO_2$ included in the calculations:

- For imports:
  - LEG 1 and 2 are operated by the foreign partner who sub-contracts LEG 3 to Colissimo.
  - LEG 3 corresponds to the national network and is therefore included in the corresponding $CO_2$ calculations.
  - Special case 1: for Overseas France and Corsica: Colissimo operates the 3 LEGs and emissions are therefore accounted for in this block.
  - Special case 2: in the case of cross-border road deliveries in Europe: the linehaul may be operated by Colissimo (minority of cases).

- For exports:
  - LEG 1 corresponds to the national Colissimo network and is therefore included in the corresponding $CO_2$ calculations.
  - LEG 2 corresponds to the international section operated by Colissimo and calculated in this block 7 $CO_2$ International
  - LEG 3 is not handled by Colissimo, but by foreign partners, although invoiced by Colissimo to its business sender customers. It is not currently taken into account (concerns the countries in orange in the Leg 2 column in the following table).
  - Special case for LEG 2 Europe: only the traction to a neighbouring country is handled by Colissimo (for example, for a delivery to Poland, only the France – Germany linehaul is handled by Colissimo. The Germany – Poland linehaul is sub-contracted, as is LEG 3 in Poland). To date, only this part has been included in the improvements made to this version of the $CO_2$ calculator. The calculation used in this case corresponds to that for an Inter-PSH linehaul, using the calculation formula for block 3 – Inter-PSH section, on a section [French Office of Exchange to Foreign Office of Exchange].

Below is the list and mapping of road destinations:

| Code pays | Pays desservi | Colissimo opère le LEG 2 jusqu'au pays |
|---|---|---|
| PT | Portugal | Portugal |
| ES | Espagne | Espagne |
| GB | Royaume-Uni | Royaume-Uni |
| BE | Belgique | Belgique |
| NL | Pays-Bas | Pays-Bas |
| LU | Luxembourg | Luxembourg |
| DE | Allemagne | Allemagne |
| PL | Pologne | Allemagne |
| LT | Lettonie | Pays-Bas |
| LV | Lituanie | Pays-Bas |
| EE | Estonie | Pays-Bas |
| CZ | République Tchèque | Allemagne |
| SI | Slovénie | Allemagne |
| IT | Italie | Italie |
| SK | Slovaquie | Allemagne |
| HU | Hongrie | Allemagne |
| AT | Autriche | Autriche |

For certain countries, Colissimo does not operate LEG 2 to the country served, but to a destination country from which the parcel is entrusted to a subcontractor. These cases are noted in orange in the table above.

➔ If other European countries are considered, then this is air transport.

To summarise, here are the linehauls considered in block 7 – International:

| | Transport | Import<br>CO2 pris en compte | Export<br>CO2 pris en compte |
|---|---|---|---|
| Grand international + OM + Aérien Corse | Aérien | N/A<br><br>Sauf si provenance de l'OM ou de Corse (LEG 2) | LEG 2 |
| Europe | Routier | N/A<br><br>Sauf si le LEG 2 est opéré par Colissimo à titre exceptionnel | - LEG 2 pour les pays limitrophes<br>- LEG 2 réduit aux pays limitrophes, pour les pays plus lointains (cf. liste des pays) |

*N.B.: Although invoiced to customers for parcel exports, LEG 3 is not operated by Colissimo and the corresponding emissions have not been included in this version of the calculator.*

## International Air Calculation

Below are the formulas for calculating TTW and WTW $CO_2$ emissions for air transport:

$$CO_2\ Air\ TTW = M_c * D_c * F_{eTTW}$$

$$CO_2\ Air\ WTW = M_c * D_c * F_{eWTW}$$

With:

- $M_c$ = parcel weight (in tons)
- $D_c$ = distance airport to airport (km). These distances are the official UPU (Universal Postal Union) distances. If this distance is unknown, then a distance of 9536 km has been considered in the calculation.
- $F_{eTTW}$ and $F_{eWTW}$ = emission factors (in $kgCO_2/t.km$) TTW and WTW. These air emission factors depend on the length of the journey, as follows:

$$F_{eTTW} = \begin{cases} 1.230840 & D_c < 1000\ km \\ 0.892096 & 1000\ km \leq D_c \leq 3500\ km \\ 0.722724 & D_C > 3500\ km \end{cases}$$

$$F_{eWTW} = \begin{cases} 1.483320 & D_c < 1000\ km \\ 1.083560 & 1000\ km \leq D_c \leq 3500\ km \\ 0.875264 & D_C > 3500\ km \end{cases}$$

## International calculation by road

For all international linehauls [Office of Exchange – Office of Exchange], the calculation formula used in the $CO_2$ calculator is that of the Inter-PSH section (preferred formula of the PDEF method).

$$CO_2\ International\ Import\ or\ Export\ TTW = D_{tm} * \left(\frac{E_{tvm1} * V_c}{V_{tm}} + (E_{tcm1} - E_{tvm1}) * \frac{M_c}{C_{tm}}\right)$$

$$CO_2\ International\ Import\ or\ Export\ WTW = D_{tm} * \left(\frac{E_{tvm2} * V_c}{V_{tm}} + (E_{tcm2} - E_{tvm2}) * \frac{M_c}{C_{tm}}\right)$$

- $D_{tm}$ = Average increased distance on the Inter-PSH section of the parcel (km)
- $E_{tvm1.2}$ = Recalculated emission (energy mix) of average unladen $CO_2$ TTW and WTW over the vehicle's journey ($gCO_2$/km)
- $E_{tcm1.2}$ = Recalculated $CO_2$ emissions at average TTW and WTW load over the vehicle's travel distance ($gCO_2$/km)
- $C_{tm}$ = Average maximum truck load on the Parcel section (kg)
- $V_{tm}$ = Average volume of a parcel on the Parcel section (m3)
- $V_c$ = Parcel volume (m3)
- $M_c$ = Parcel weight (kg)

## Details of block 8 – Other $CO_2$

Block 8 corresponds to buildings' $CO_2$ emissions (from their energy consumption).
As part of La Poste Group's annual non-financial reporting, electricity and gas consumption data for all Colissimo hubs are reported, making it possible to calculate total $CO_2$ emissions for this scope. These emissions are divided by the number of parcels in the previous year.

For all parcels, we then assign this additional $CO_2$ coefficient, which is the same for all parcels.

$$CO2_{other}TTW = \frac{\sum(CO2_{Buildings})\ TTW}{card(Parcels\ of\ which\ the\ phase\ Other\ is\ applicable)}$$

$$CO2_{other}WTW = \frac{\sum(CO2_{Buildings})\ WTW}{card(Parcels\ of\ which\ the\ phase\ Other\ is\ applicable)}$$

# Data dictionary

The reporting interface presents different types of **indicators** linked to the **$CO_2$ emissions** generated by a customer's activity, as well as other indicators such as kilometers traveled and tonne-kilometers. These **data** can be **exported** in **CSV** format according to the selected period, and taking into account the various **possible filters**.

Details of these data are shown in the data dictionary table opposite:

| Field | Data type | Unit | Description |
|---|---|---|---|
| **Total $CO_2$ Nat WTW** | Digital | Tonnes $CO_2$ equivalent ($tCO_2e$) | Total Well-to-Wheel $CO_2$ emissions for metropolitan France |
| **Total $CO_2$ Nat TTW** | Digital | Tonnes $CO_2$ equivalent ($tCO_2e$) | Total Tank-to-Wheel $CO_2$ emissions for mainland France |
| **Total $CO_2$ Delivery Nat WTW** | Digital | Kilograms $CO_2$ equivalent ($kgCO_2e$) | $CO_2$ emissions for the last-mile Well-to-Wheel service to metropolitan France |
| **Total $CO_2$ Delivery Nat TTW** | Digital | Kilograms $CO_2$ equivalent ($kgCO_2e$) | Tank-to-Wheel $CO_2$ emissions for the last mile to metropolitan France |
| **No. of parcels delivered in carbonated Nat** | Digital | Number | Number of last-mile parcels delivered by internal combustion vehicles in metropolitan France |
| **No. of parcels delivered decarbonated Nat** | Digital | Number | Number of parcels delivered using low-carbon delivery methods (cargo and pedestrian bikes, biogas and electric) in the last mile in metropolitan France |

| | | | |
|---|---|---|---|
| **Total invoiced volume Nat** | Digital | Liters (L) | Total parcel volumes invoiced for parcels to metropolitan France |
| **Total distance covered Nat** | Digital | Kilometers (km) | Total distance travelled to transport parcels to metropolitan France |
| **Total tonne-kilometres Air Nat** | Digital | Tonne-kilometres (tkm) | Total tonne-kilometres by air for parcels bound for metropolitan France |
| **Total tonne-kilometres Road Nat** | Digital | Tonne-kilometres (tkm) | Total tonne-kilometres by road for parcels destined for metropolitan France |
| **No. of parcels invoiced Nat** | Digital | Number | Total amount of parcels invoiced to metropolitan France |
| **Total weight of domestic parcels invoiced** | Digital | Kilogram (kg) | Total weight of parcels invoiced to metropolitan France |
| **Total $CO_2$ Inter WTW** | Digital | Tonnes $CO_2$ equivalent ($tCO_2e$) | Total Well-to-Wheel $CO_2$ emissions for international destinations |
| **Total $CO_2$ Inter TTW** | Digital | Tonnes $CO_2$ equivalent ($tCO_2e$) | Total Tank-to-Wheel $CO_2$ emissions for international destinations |
| **Total $CO_2$ Delivery Inter WTW** | Digital | Kilograms $CO_2$ equivalent ($kgCO_2e$) | $CO_2$ emissions for the Well-to-Wheel last-mile |

| | | | |
|---|---|---|---|
| | | | international section |
| **Total $CO_2$ Delivery Inter TTW** | Digital | Kilograms $CO_2$ equivalent ($kgCO_2e$) | $CO_2$ emissions for the Tank-to-Wheel last-mile international section |
| **No. of parcels delivered in carbonated Inter** | Digital | Number | Number of parcels delivered by combustion-powered vehicles for the last-mile international section |
| **No. of parcels delivered decarbonated Inter** | Digital | Number | Number of parcels delivered using low-carbon delivery methods (cargo and pedestrian bikes, biogas and electric) for the international last-mile section |
| **Total volume invoiced Inter** | Digital | Liters (L) | Total parcel volumes invoiced for parcels to metropolitan France |
| **Total Distance covered Inter** | Digital | Kilometers (km) | Total distance covered to transport parcels to international destinations |
| **Total tonne-kilometres Air Inter** | Digital | Tonne-kilometres (tkm) | Total tonne-kilometres by air for international parcels |
| **Total tonne-kilometres Road Inter** | Digital | Tonne-kilometres (tkm) | Total tonne-kilometres by road for international parcels |
| **No. of parcels invoiced Inter** | Digital | Number | Total invoiced parcels to |

| | | | |
|---|---|---|---|
| | | | international destinations |
| **Total weight of international parcels invoiced** | Digital | Kilogram (kg) | Total weight of parcels invoiced to international destinations |
| **Total $CO_2$ Overseas France WTW** | Digital | Tonnes $CO_2$ equivalent ($tCO_2e$) | Total Well-to-Wheel $CO_2$ emissions for Overseas France |
| **Total $CO_2$ Overseas France TTW** | Digital | Tonnes $CO_2$ equivalent ($tCO_2e$) | Total Tank-to-Wheel $CO_2$ emissions for Overseas France |
| **Total $CO_2$ Delivery Overseas France WTW** | Digital | Kilograms $CO_2$ equivalent ($kgCO_2e$) | $CO_2$ emissions for the last-mile Well-to-Wheel service to Overseas France |
| **Total $CO_2$ Delivery Overseas France TTW** | Digital | Kilograms $CO_2$ equivalent ($kgCO_2e$) | Tank-to-Wheel $CO_2$ emissions for the last mile to Overseas France |
| **No. of parcels delivered in carbonated Overseas France** | Digital | Number | Number of last-mile parcels delivered by combustion-powered vehicles in Overseas France |
| **No. of parcels delivered decarbonated Overseas France** | Digital | Number | Number of parcels delivered using low-carbon delivery methods (cargo and pedestrian bikes, biogas and electric) in the last mile in Overseas France |
| **Total volume invoiced Overseas France** | Digital | Liters (L) | Total sum of invoiced parcel |

| | | | |
|---|---|---|---|
| | | | volumes for parcels to Overseas France |
| **Total distance travelled Overseas France** | Digital | Kilometers (km) | Total distance covered to transport parcels to Overseas France |
| **Total tonne-kilometres Air Overseas France** | Digital | Tonne-kilometres (tkm) | Total tonne-kilometres by air for parcels bound for overseas France |
| **Total tonne-kilometres Road Overseas France** | Digital | Tonne-kilometres (tkm) | Total tonne-kilometres by road for parcels destined for overseas France |
| **No. of parcels invoiced Overseas France** | Digital | Number | Total amount of parcels invoiced for overseas France |
| **Total weight of Overseas France parcels invoiced** | Digital | Kilogram (kg) | Total weight of parcels invoiced to Overseas France |

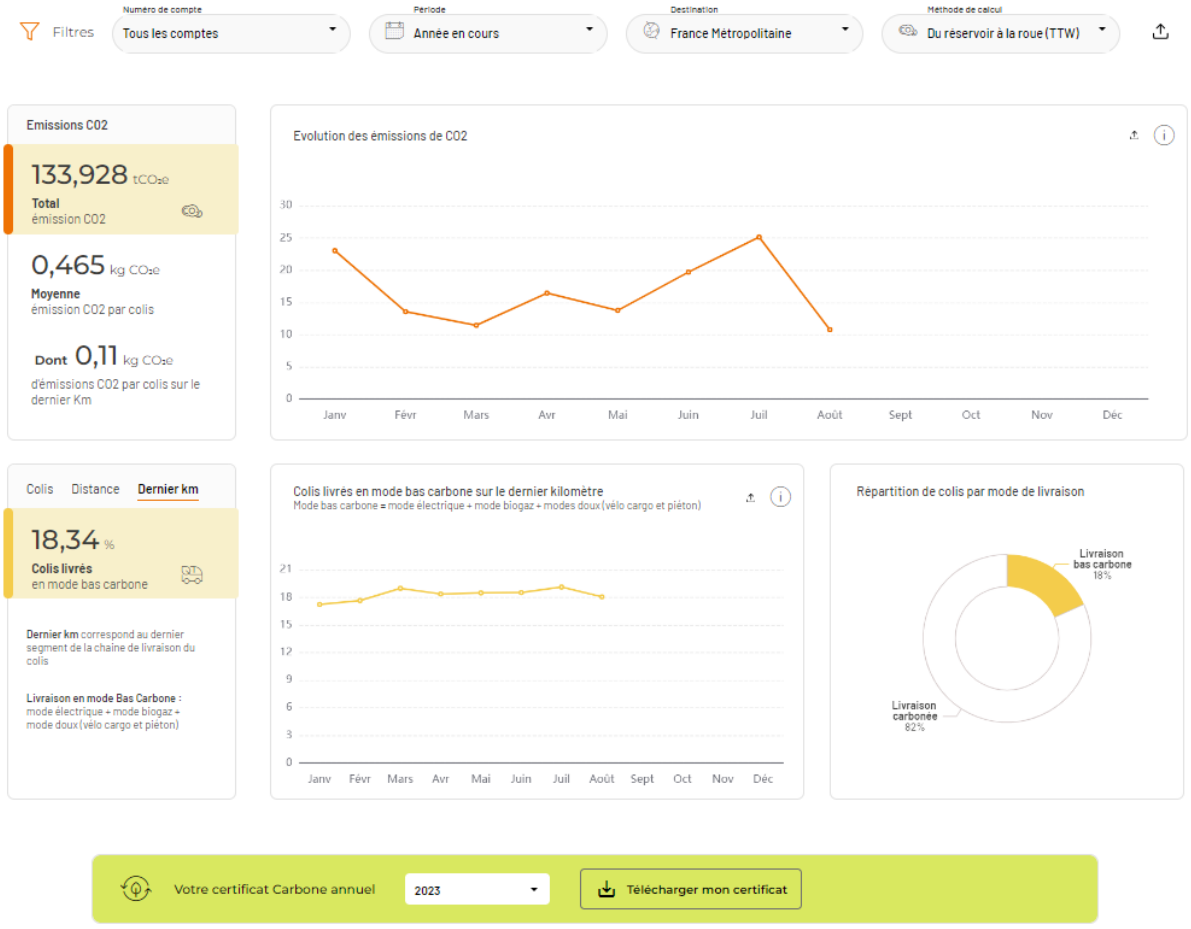
## Output interface

The $CO_2$ calculator interface is accessible to all business shippers with an account on the "Colissimo Box" website.

It aims to provide indicators to understand the $CO_2$ emissions related to the transport and delivery of parcels entrusted to Colissimo such as :

- *Total $CO_2$ emissions*
- *Average $CO_2$ emissions per parcel*
- *Average distance travelled per parcel (in km)*
- *The total tonne-kilometres of parcels, broken down into tonne-kilometres over the air and tonne-kilometres over the ground, are as follows*
  *road tonne-kilometres (in tkm)*
- *Average volume per parcel (in liters)*
- *Average weight per parcel (in Kg)*
- *Last-mile $CO_2$ emissions ($KgCO_2$)*
- *The % of parcels delivered in low-carbon mode in France*

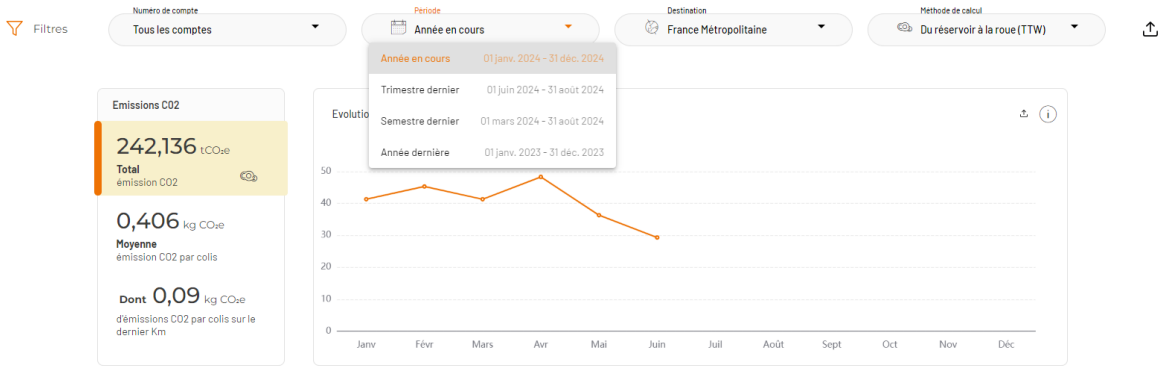
The interface looks like this:




## The interface consists of 3 distinct zones:

I. 4 filters at the top of the page:

- Account number: the customer can select more than one, if they have more than one
- Time period: a dynamic filter has been introduced, enabling customers to select any month, quarter or half-year, as well as the previous year, and obtain indicators for the selected period
- Destination: the customer has 4 possible choices: France, Overseas, International, All destinations (i.e. the sum of the first 3 destinations)
- Calculation method: the customer can select from the following two methods:
  - Tank-to-wheel: to obtain $CO_2$ emissions "from tank to wheel", i.e. emissions relating to energy consumption.
  - Well-to-wheel: to obtain $CO_2$ emissions "from well to wheel", i.e. emissions relating to energy production + consumption.

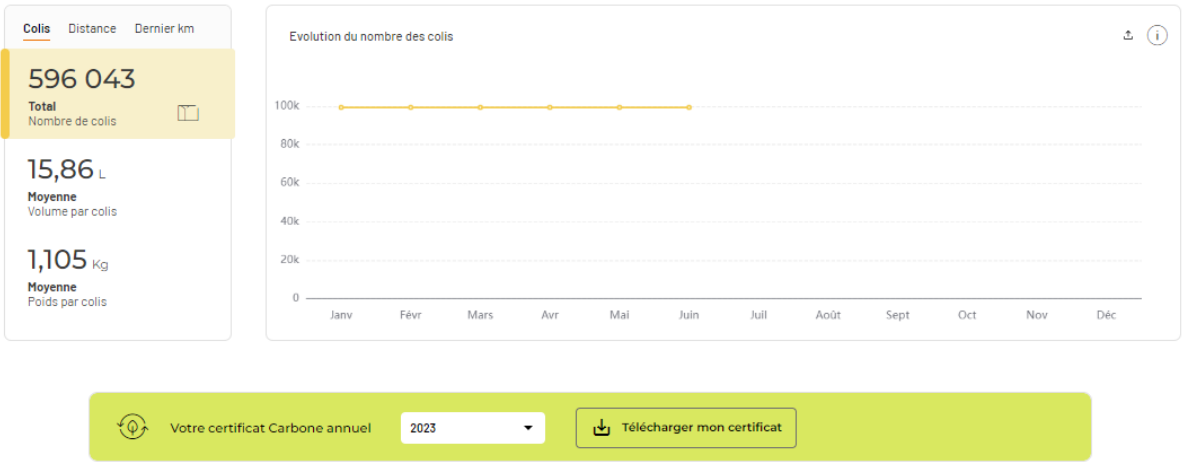



II. 4 display zones:

1. Top left, general data that changes according to the selections made in the filters:
   - Total $CO_2$ emissions (in tonnes of $CO_2$ equivalent)
   - Average $CO_2$ emissions per parcel: in $kgCO_2$ equivalent per parcel; including average last-mile $CO_2$ emissions per parcel: in $kgCO_2$ equivalent per parcel

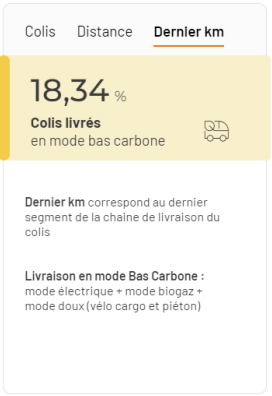
2. Top right, an annual graph corresponding to the data selected from those displayed at top left. A highlight and a data label are visible on the curve, for the time period selected in the header filter.
   A pie chart displays total $CO_2$ emissions by destination when multiple destinations are selected in the corresponding filter.

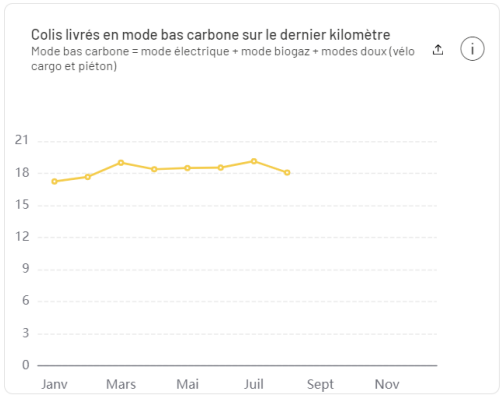

3. Bottom left, 3 tabs are available, covering **Parcel, Distance or Last Mile** data (the user can select one or the other):
   - In the case of **Parcels**, the data available are: the **total number of parcels** for the selected accounts, the **average volume** in Litres per parcel and the **average weight** in Kg per parcel over the selected period

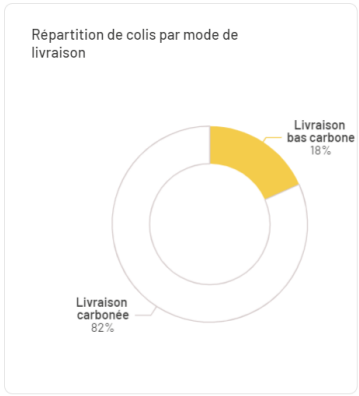



- In the case of **Distance**, the data available is the **average distance travelled per parcel in Km**, as well as the **total tonne-kilometres of** the parcels concerned over the period, with a distinction between road tonne-kilometres and air tonne-kilometres by hovering over the relevant box


- If it is the **last mile**, then the data available is the **percentage of parcels delivered in low-carbon mode** (e.g., by electric or biogas vehicle, or in soft mode, via cargo bike or on foot).




4. Bottom right, an annual graph corresponding to the data selected from those displayed at the bottom left. A highlight and a data reading are visible on the curve, for the time period selected in the filter at the top of the page.

   A pie chart showing the distribution of tonne-kilometres can be found in the **Distance** by destination tab, by selecting several destinations in the corresponding filter. A pie chart showing the distribution of parcels by delivery mode (carbon and low-carbon) can also be found in the **Last mile** tab when "Metropolitan France" is selected in the destination filter.

## III. A banner at the bottom of the page to download the customer's annual carbon certificate, with a 2-year history.

# Appendix 1 – Carbon certificate

colissimo


Ce certificat atteste que les prestations confiées à La Poste – Colissimo par [**NOM DU CLIENT**] ont généré pour l'année [**xxxx**] :

| [Quantité] colis | [Quantité] teq $CO_2$* entre le [JJ/MM/AAAA] et le [JJ/MM/AAAA] |
|---|---|

*teq $CO_2$ = tonne équivalent $CO_2$

[**NOM DU CLIENT**] prend part à la transition écologique vers une économie Bas Carbone grâce aux démarches de réduction des émissions de $CO_2$ que La Poste – Colissimo met en œuvre.

Référente dans la lutte contre le changement climatique, La Poste – Colissimo est engagée dans une trajectoire de réduction des émissions de $CO_2$ validée par l'initiative SBT. La Poste – Colissimo a ainsi réduit les émissions de $CO_2$ par colis de 49% entre 2013 et 2023.

**Jean-Yves GRAS**
Directeur Général de La Poste – Colissimo

Colissimo, le choix d'une livraison plus responsable et réussie.



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## Appendix 2 – Glossary

- ACP: Colisposte Agency
- GLEC: Global Logistics Emissions Council: Program dedicated to the introduction of widespread, transparent and consistent calculation and reporting of greenhouse gas (GHG) emissions, bringing together companies and NGOs. The GLEC framework has been developed to provide multinationals and their suppliers with a harmonized, efficient and transparent means of calculating and reporting logistics emissions. This methodological framework enables members and partners to accelerate their action to reduce greenhouse gas emissions and collectively comply with the Paris Climate Agreement.
- Km empty: refers to the notion of a transport operation without a load; most often, this is the truck journey between the carrier's depot and the first La Poste site where it will pick up parcels
- LEG: Portion of international transport
- MDH: Mail Distribution Hub
- PSH: Parcel Sorting Hub
- MPDH: Mail Preparation and Distribution Hub
- SFC: Smart Freight Centre: International non-profit organization dedicated to reducing greenhouse gas emissions from freight transport
- TTW: Tank-to-Wheel: $CO_2$ emissions "from tank to wheel" = emissions related to energy consumption.
- WTW: Well-to-Wheel: $CO_2$ emissions "from well to wheel", = emissions related to the production + consumption of energy