CO2 calculations in Qargo

CO2 emissions can now be seen at order and load levels (PTV routing only). WtW format is shown in the summary, based on modeled routes.

Updated October 29, 2025

Introduction:

The focus on climate is ever present and will only continue to grow. Qargo customers need visibility and often reporting capability as part of their ESG (environmental, social and governance) governance.
The Corporate Sustainability Reporting Directive (CSRD) is an EU regulation designed to boost transparency and hold companies accountable for their environmental, social and governance (ESG) impacts. If covered by the CSRD, a company must disclose its sustainability practices.
It is now possible to see **CO2 emissions in Qargo**. These are shown at both the order and load level. However, the data presented is calculated using modeled data. The calculations are therefore based on the assumed route generated, and not on the actual routes driven or fuel consumption.

Configuration

Although there are 2 routing options available in Qargo, CO2 emission visibility is currently only available when using ***PTV Routing***. Once this is configured, the CO2 emissions automatically begin to show on any new orders.
Additionally, this configuration ensures that CO2 emissions calculations align with ISO 14083 standards, leveraging methodologies certified by the Smart Freight Centre.

> 💬 To check or update this, contact the account manager or Qargo admin.

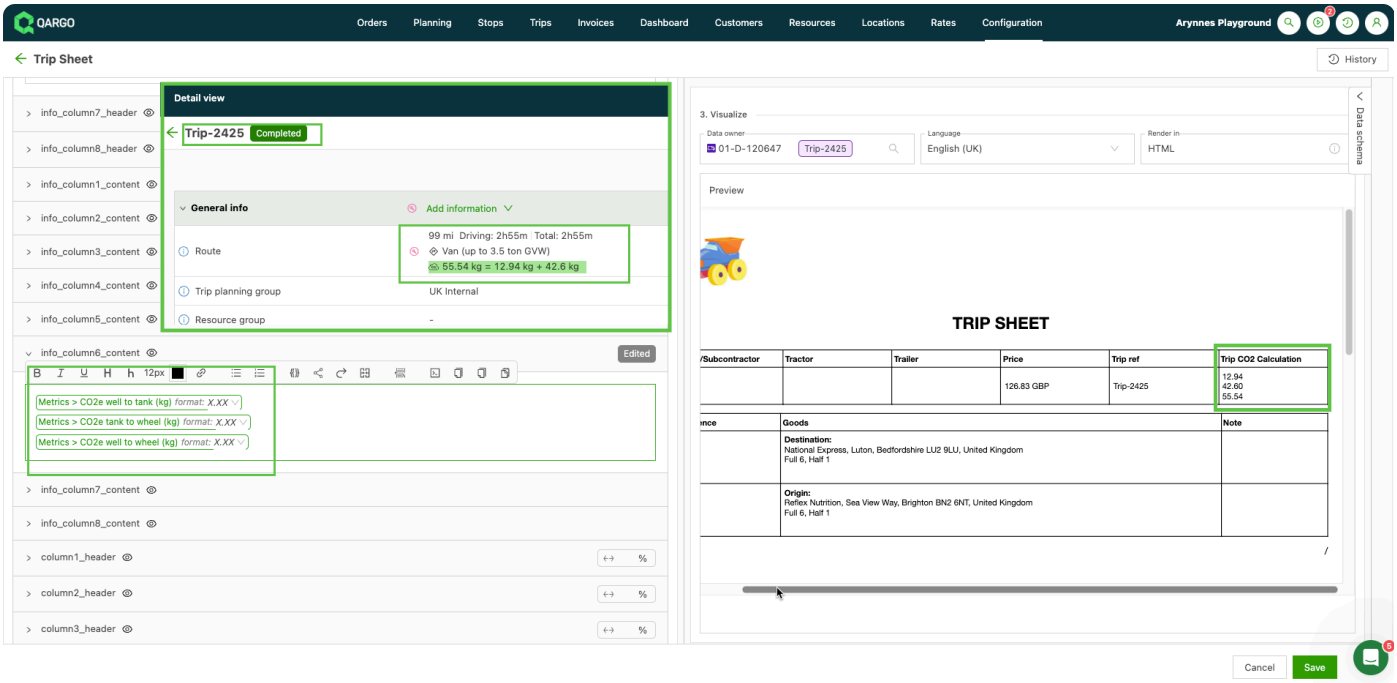
Documents

CO2 calculations can be included on documents by adding the data to a document template. As calculations are available on both the order and load details, the data can be included in a variety of templates.

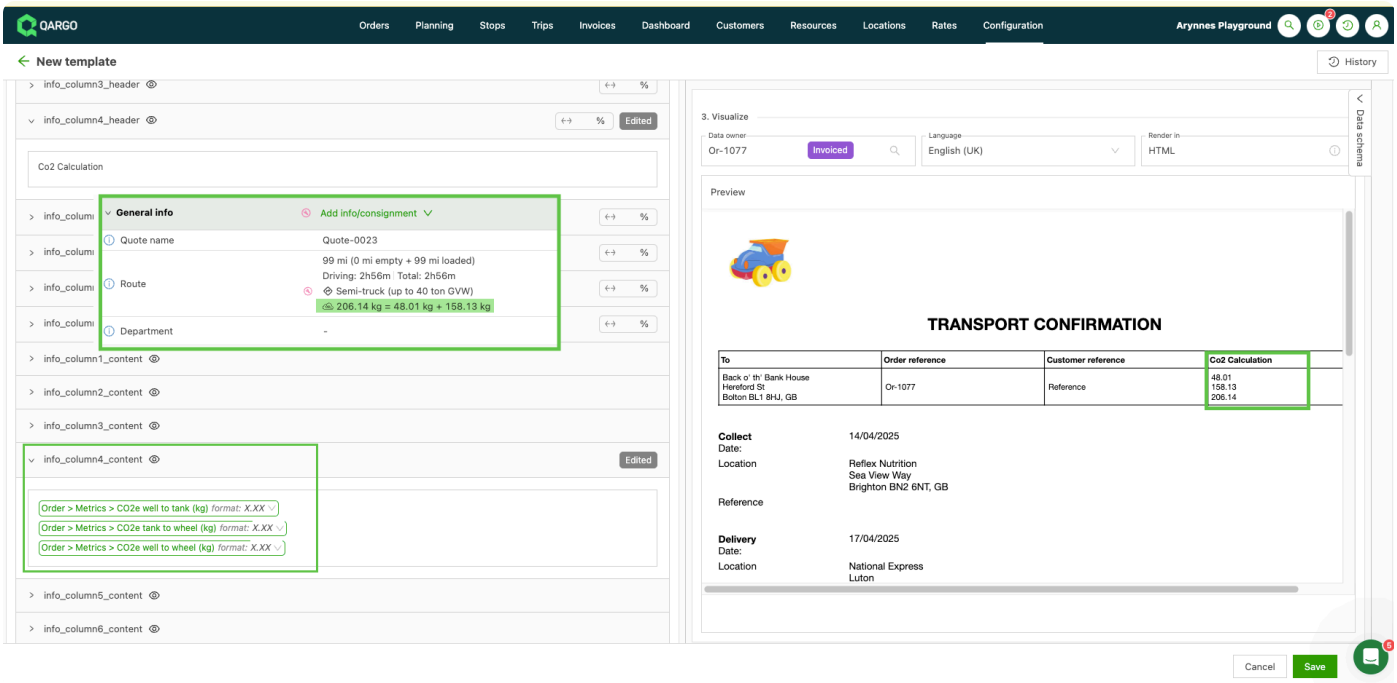
> ***NOTE:*** *Access to templates is available to SuperAdmin users only.*

Once added to the template, the data displays on newly generated documents.

- Calculations from the load details are available for load-related documents.



- Calculations from the order details are available for order-related documents, including quotes, order confirmations and invoices.



If the data needs to show on a document that has already been generated, use the 'Retrigger' function to update the document. This regenerates the document using the updated template.

Check with the account manager if this needs to be updated.

Calculation format:

The total calculation reported is based on the GLECv3 framework, which uses the **Well to Wheel (WtW)** concept. The dataset used for calculations follows ISO 14083 standards. Well to Wheel (WtW) emissions help assess the environmental impact of different fuels and technologies. They also help identify the most environmentally sustainable options for mobility and energy.

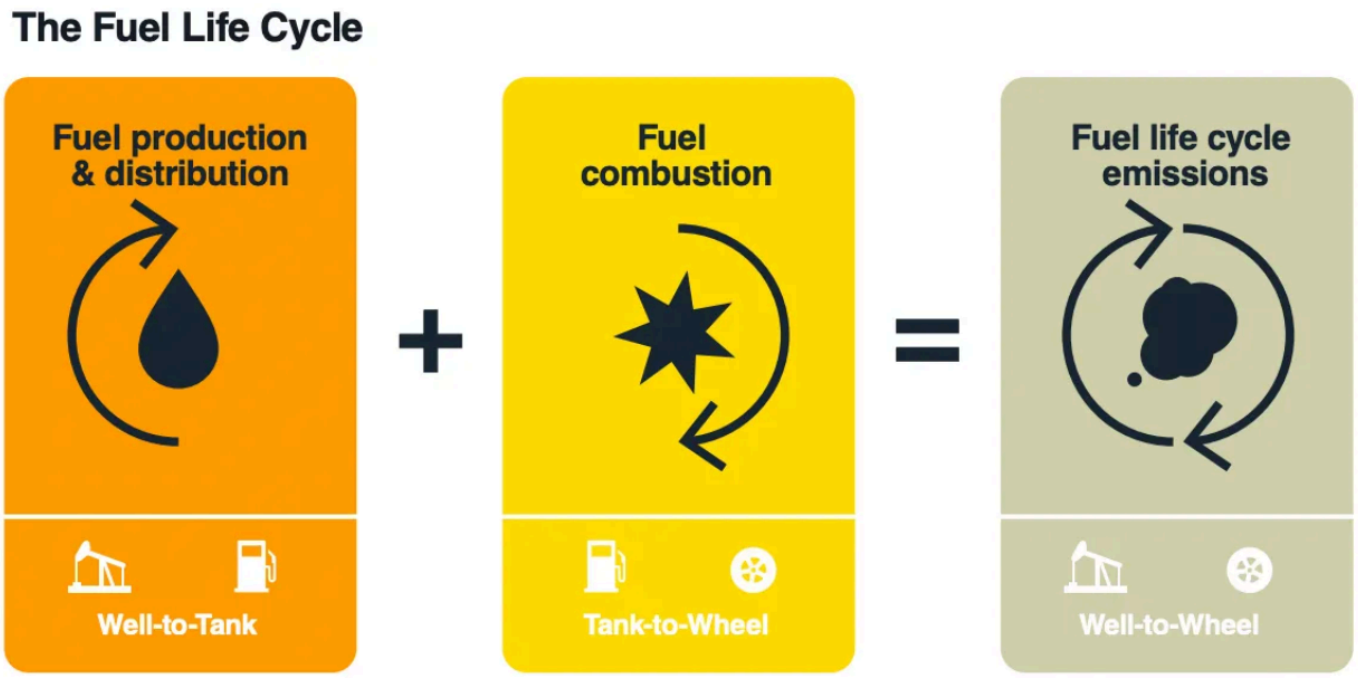


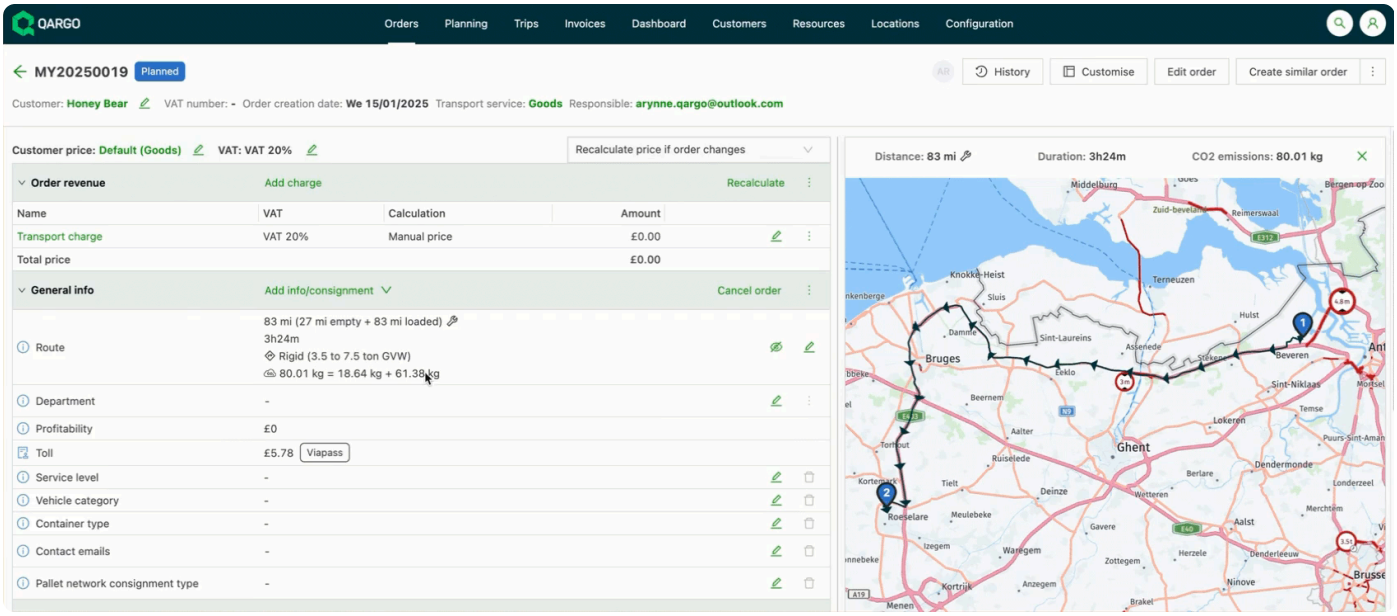
Figure 6. The GLEC Framework includes the full scope of emissions from the fuel life cycle.

- ***Well to Wheel (WtW):*** Emissions are the total greenhouse gas emissions produced at every stage of a fuel's life cycle, from extraction to use. This includes emissions from production, transportation, distribution and use.

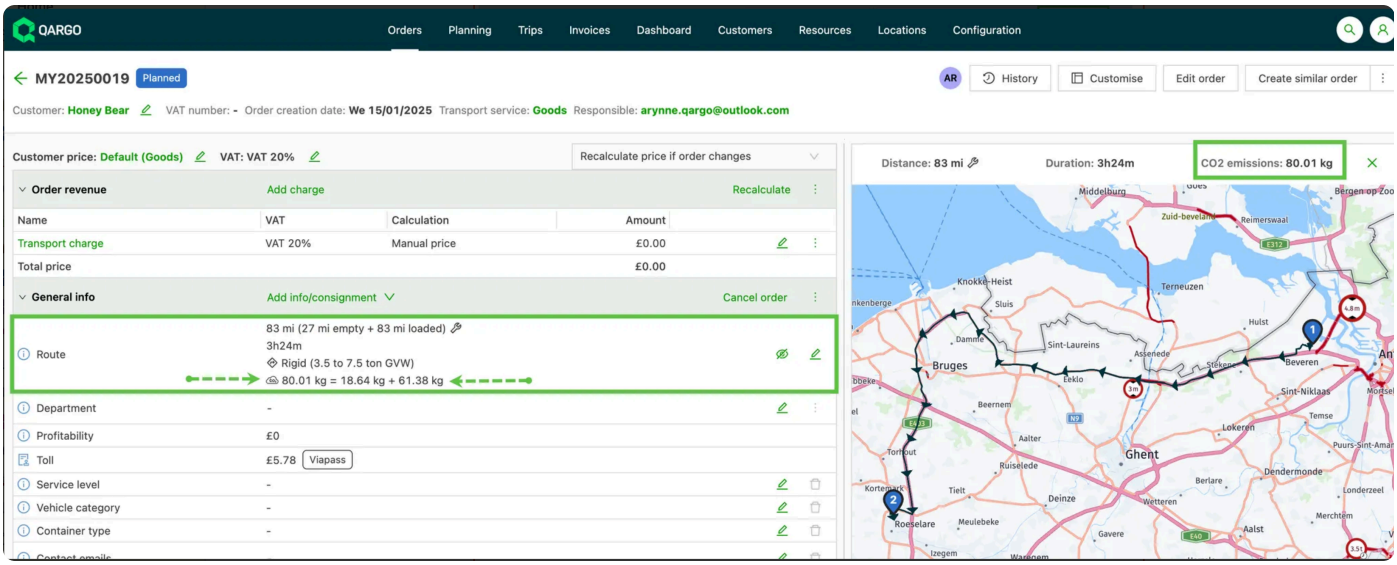
Well to Wheel (WtW) calculations are made up of:

- ***Well to Tank (WtT)***: Emissions from extracting raw materials, refining them and transporting them to fueling stations.
- ***Tank to Wheel (TtW)***: Emissions from burning the fuel in a vehicle, also known as tailpipe emissions.

WtW calculation = Well to Tank (WtT) + Tank to Wheel (TtW). Hover over the tip to show the calculations.



CO2 summary format: Well to Wheel (WtW) shows above the map and in the route summary:



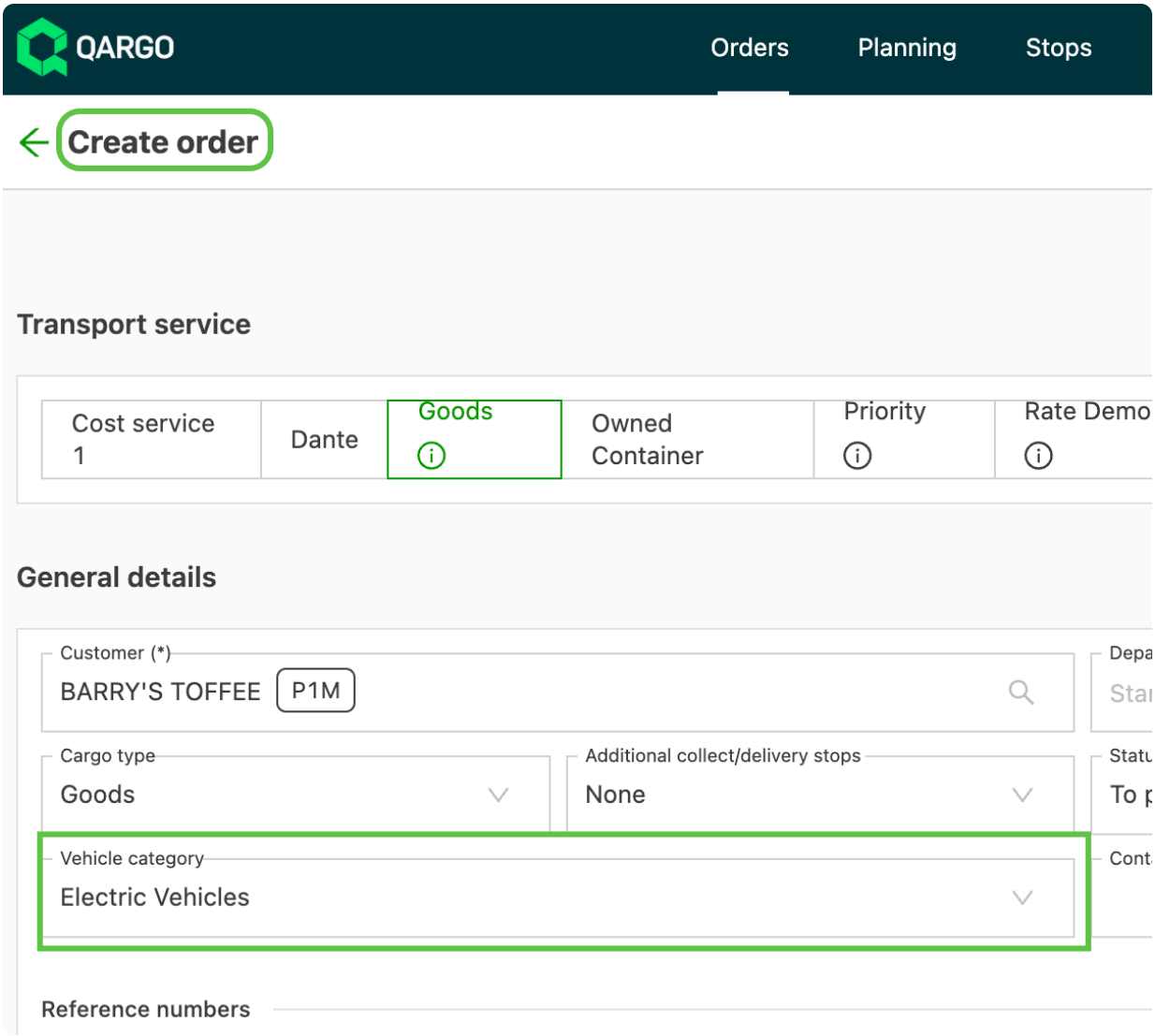
Electric vehicles

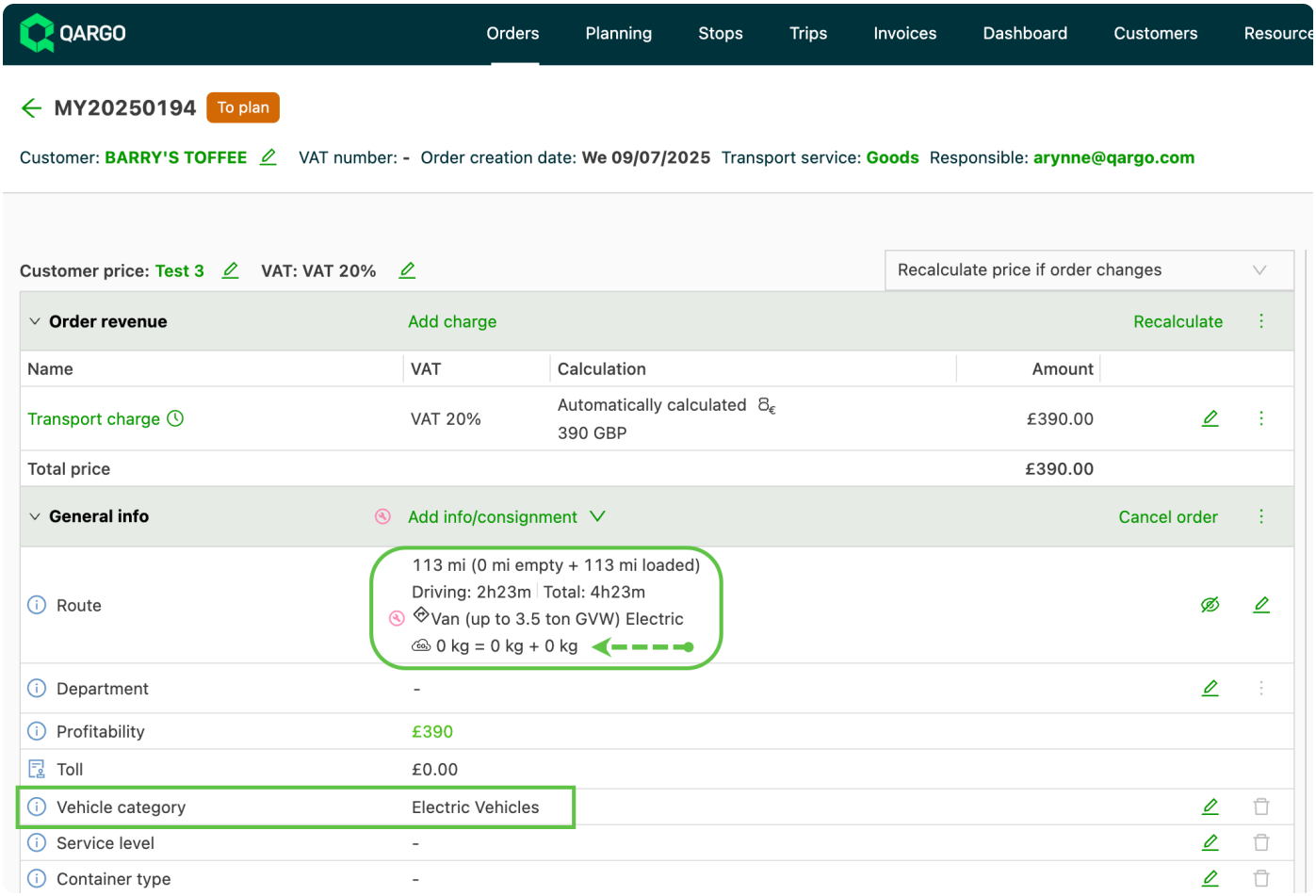
Emissions caused by electric vehicles are reported as Scope 2 of a transportation company.



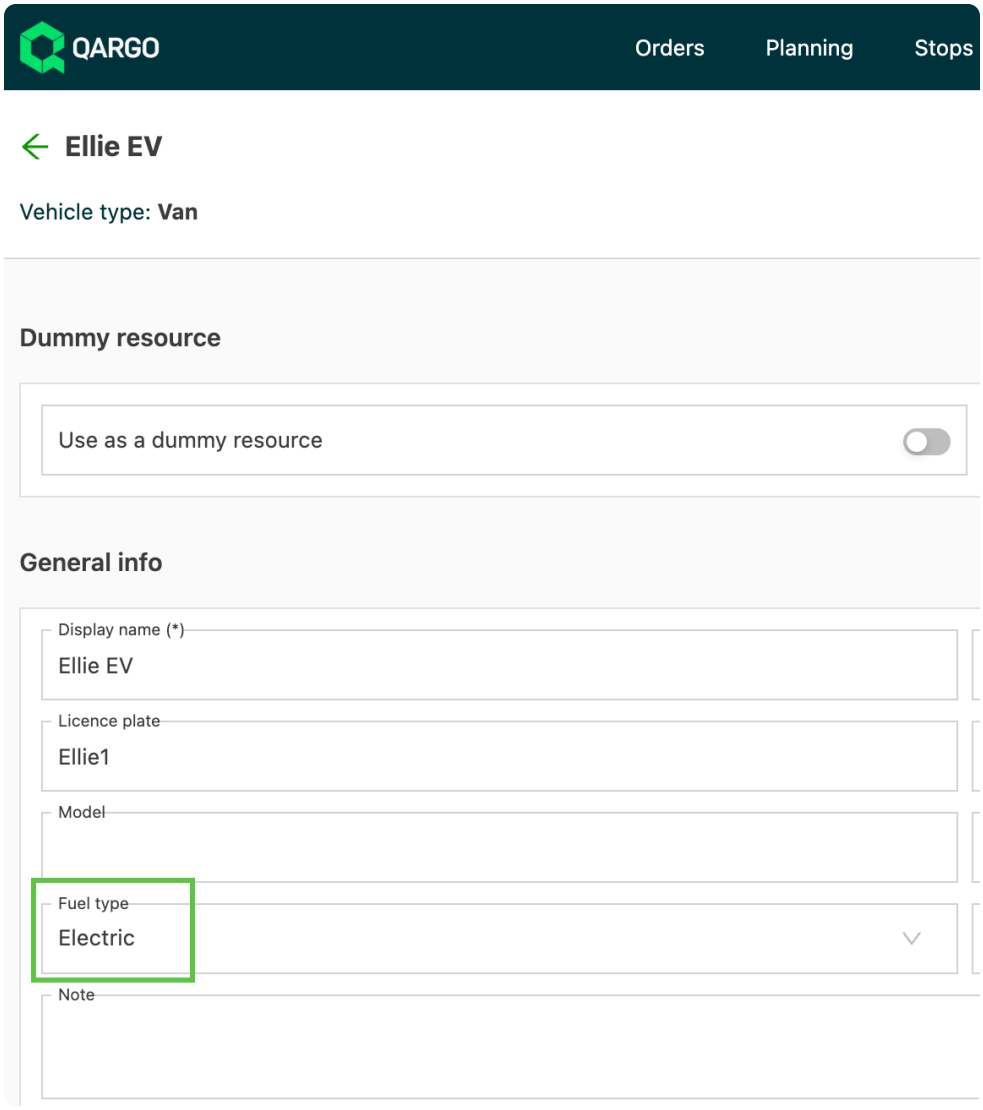
GLEC framework emission scopes

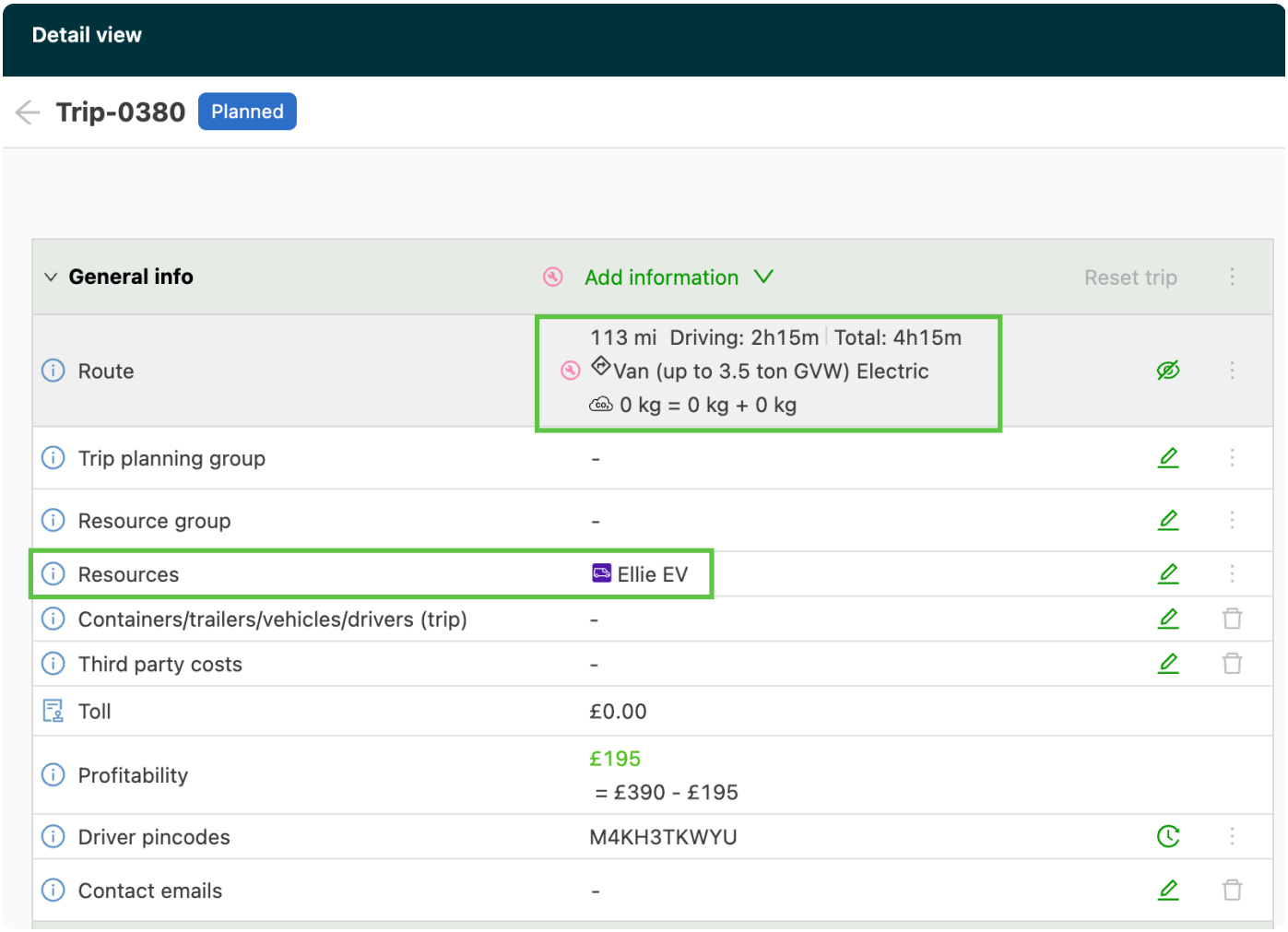
For orders to show the CO2 emissions correctly for electric vehicles, the **vehicle category on the order needs to be set to 'Electric Vehicles'** (requires setup: see Rates: vehicle categories for more details)**.** This option overrides the standard vehicle type used to calculate the CO2 emissions, and rates the order at 0 kg instead.





For loads, the CO2 calculation is still based on the vehicle assigned to the load. It is now possible to select the **engine type** on a vehicle, and this is taken into account when calculating the CO2 emissions for loads. For vehicles with an electric engine, the resulting CO2 emissions shown are **0**.


QARGO
Orders
Planning
Stops
Ellie EV
Vehicle type: Van
Dummy resource
Use as a dummy resource
General info
Display name (*)
Ellie EV
Licence plate
Ellie1
Model
Fuel type
Electric
Note

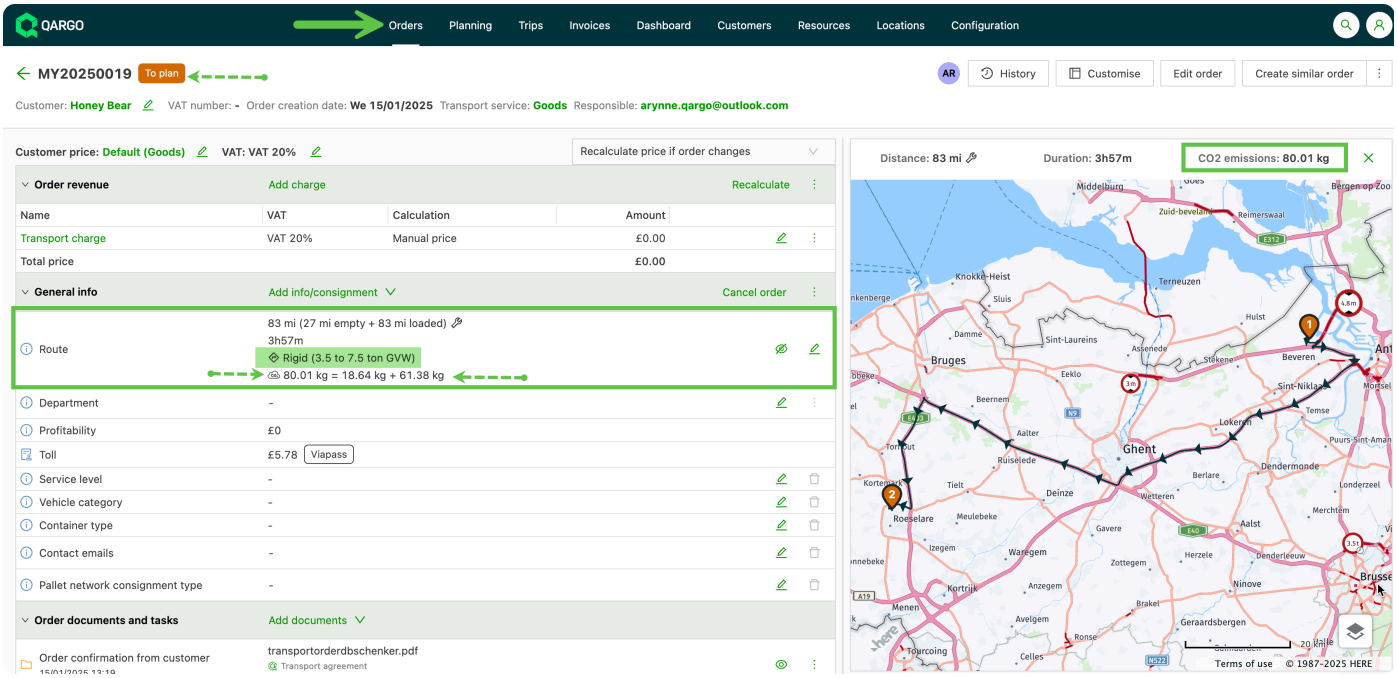


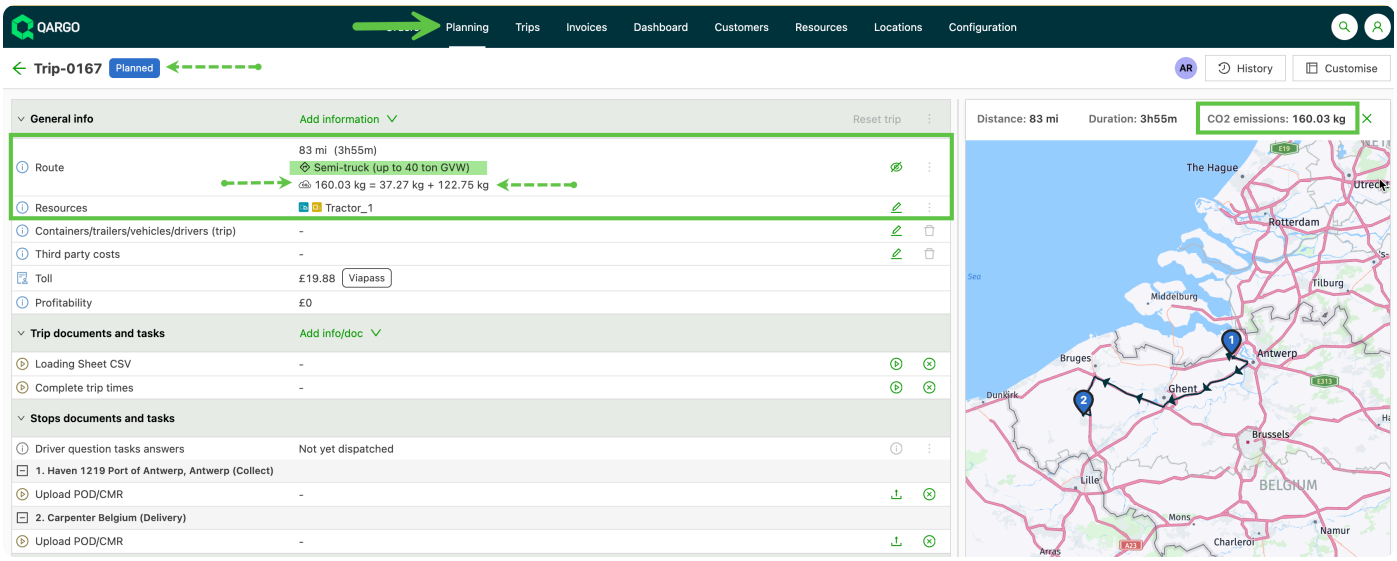
Visibility in Qargo

The calculation shown in Qargo is based on the vehicle profile selected for routing. In an order, it uses the default vehicle category or transportation service, as configured. If an alternative vehicle category is selected, for example Electric Vehicles, the resulting CO2 emissions are calculated as 0.

Once the order is assigned to a specific asset, the load may show different calculations if the assigned resource is larger (or smaller) than the default used. If a non-electric vehicle is selected, the CO2 emissions for the load are calculated based on the selected vehicle.

In the example below, the orders are based on Rigid, while the resource allocated is a tractor with trailer:





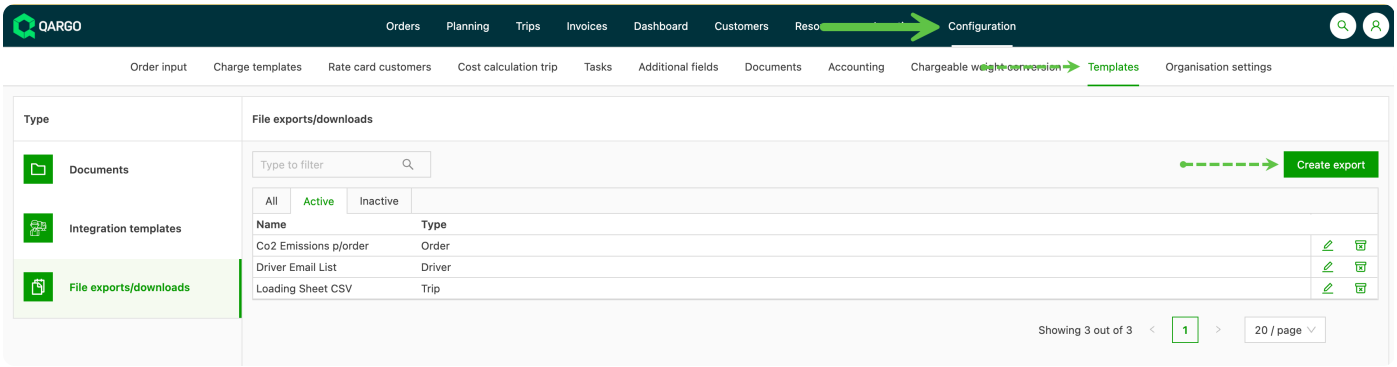
> The route is based on the ***estimated road routing*** and does not represent the actual route driven or fuel consumption. Intermodal connections (accompanied or unaccompanied) are not taken into account.

Calculations are based directly on the order, not on the loads. Emissions from loads are therefore not allocated back to the orders.

Reporting

This is a basic calculation model and is therefore not directly compliant with CSRD reporting. However, it is possible to extract data that can then be used to complete any internal or external reporting requirements. Reports can be configured to generate via the Qargo application, or via BigQuery data if accessible.

It is possible to create a ***template report*** that can be used to export the order emissions.
Navigate to the **Configuration** menu and select the ***Templates*** option.
Click ***'Create export'***.

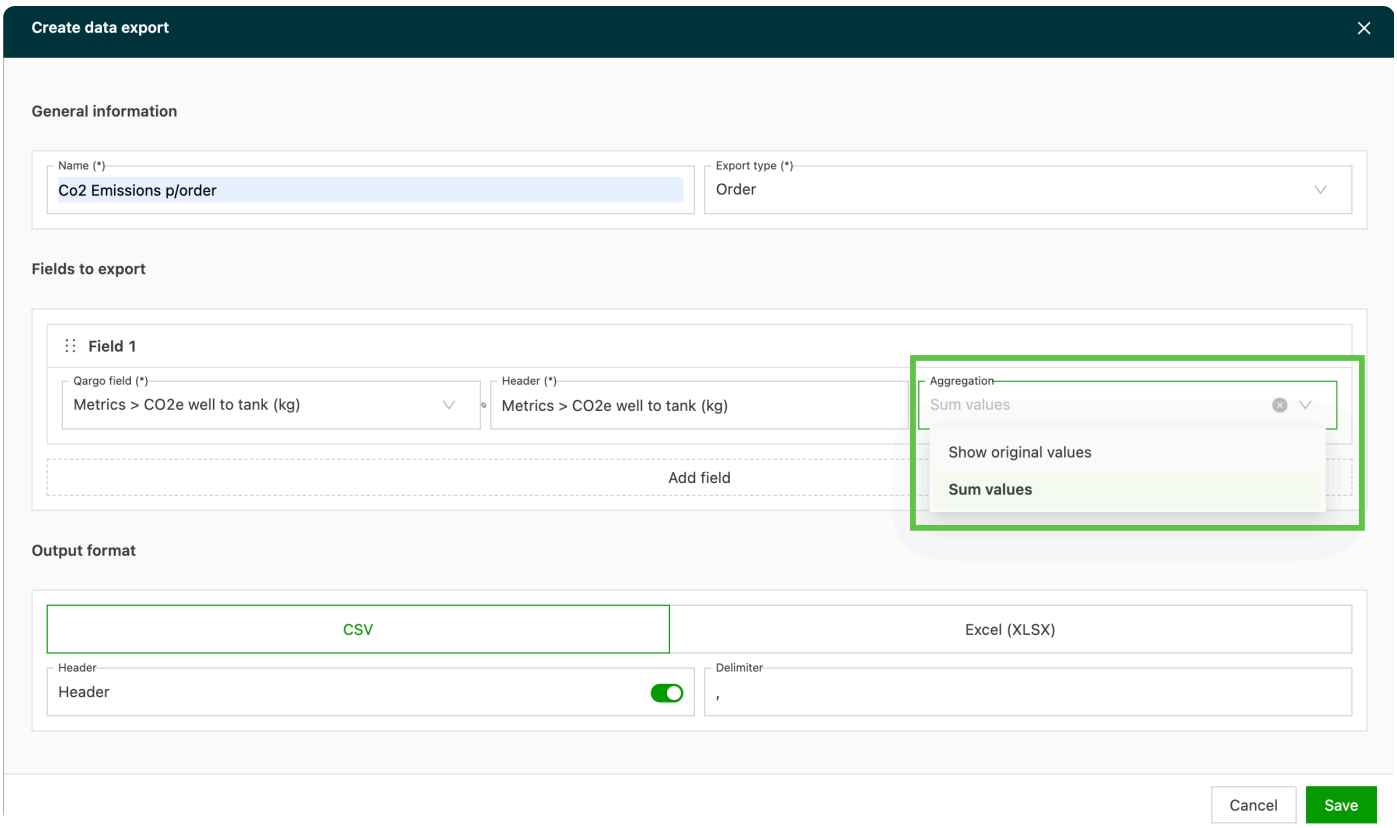


The Create data export screen displays. Use the ***'Add field'*** option to add the report parameters to include. There are 3 metrics that can be reported:

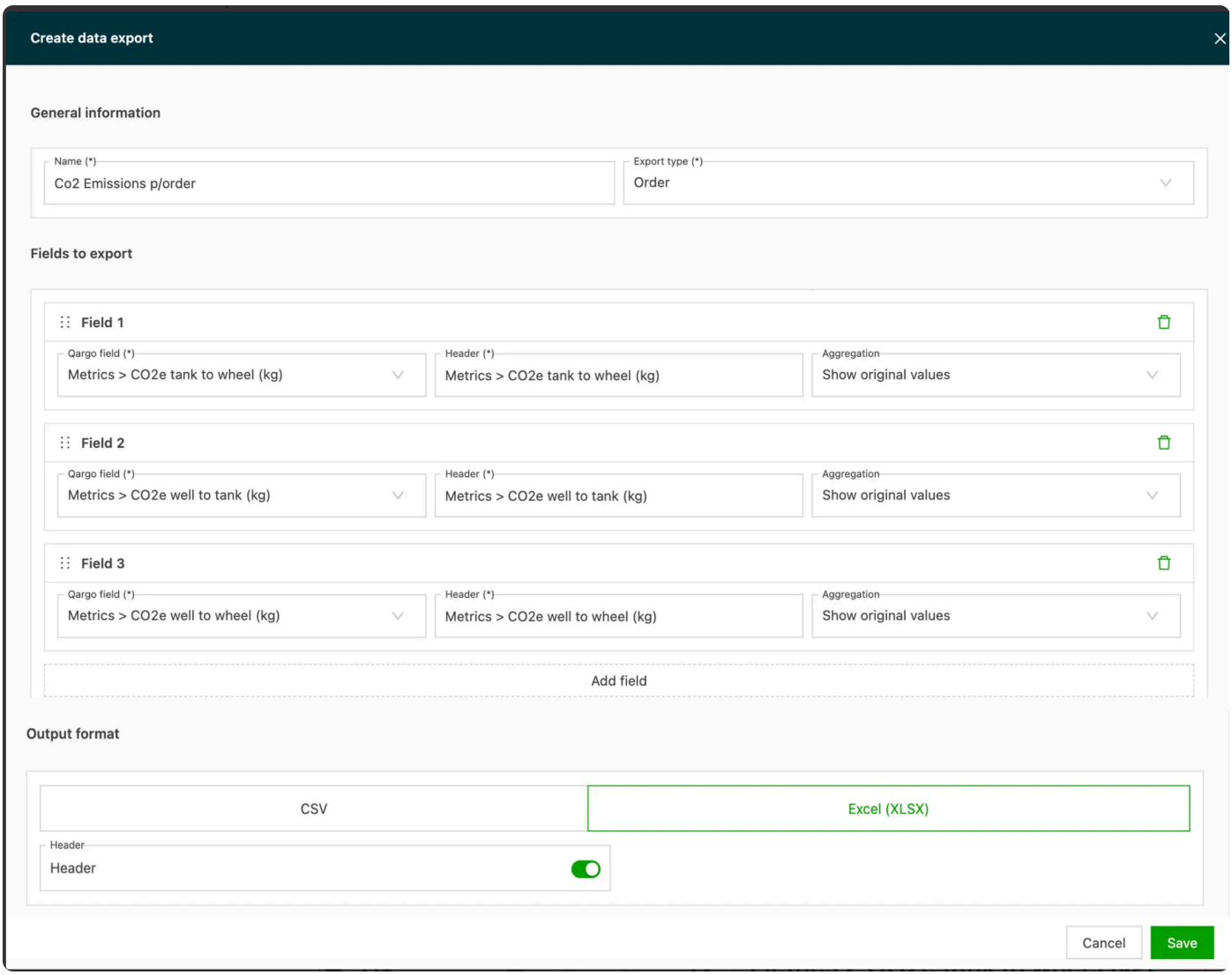
- **Well to Tank:** Emissions from extracting, refining and transporting raw materials. Can be used for Scope 3 internal reporting (indirect GHG emissions).
- **Tank to Wheel:** Emissions from burning the fuel in a vehicle (tailpipe emissions). Can be used for Scope 1 internal reporting (direct emissions).
- **Well to Wheel:** Total CO2 emissions. Can be used for providing a Scope 3 report to an external party (indirect GHG emissions).

TIP: For reporting total emissions, use the Well to Wheel (WtW) value.

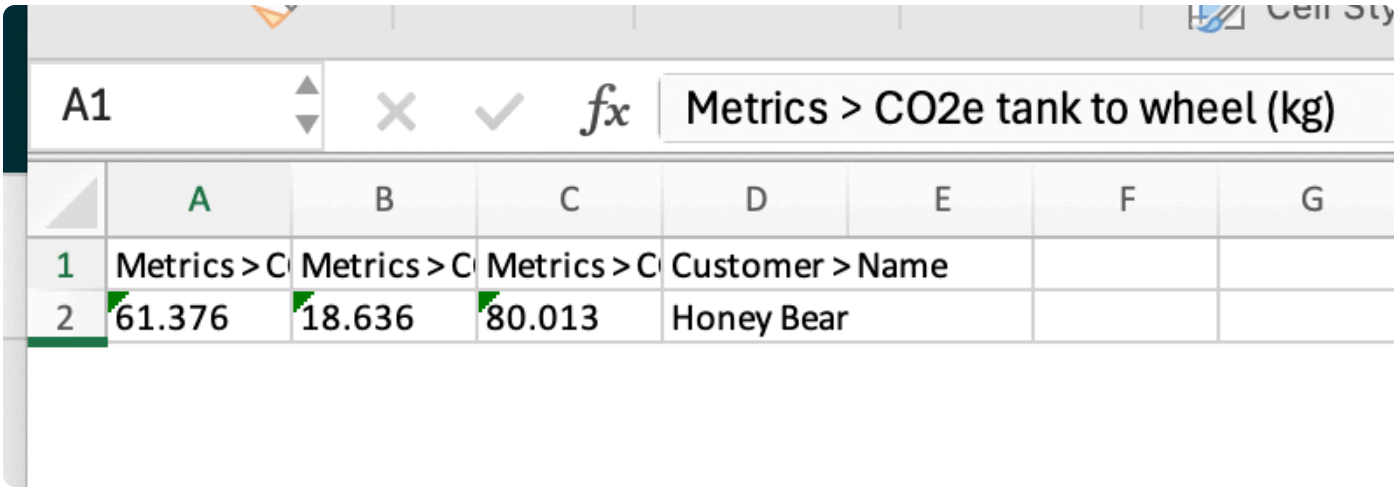
When building the report parameters, the values reported can be aggregated either as the individual original values or as a sum value:



Add the metrics to include in the report. In addition to the emissions metrics, these can include customer or location details. Click **Save.**



The report template is now available on the Orders screen. Click ***'Export'*** and select the CO2 report template. Select individual rows, or all rows to generate the report for all orders.



This data is also available via BigQuery for customers using that connection.