

Project Data Requirements

Reporting vehicle operation data to Cenex is a condition of Welsh Government funding.

Cenex uses the data to:

- Provide feedback on the performance of vehicle to the Welsh Government and to Local Authorities participating in the programme.
- Build spreadsheet models to allow Local Authorities to understand how electric vehicles would perform under their specific operating conditions.
- Produce insight reports on the best use of the vehicles to maximise emission savings and operability.

Essential Reporting Requirements

As a minimum the aim is to record the following metrics **for every day of operation for new vehicles in the programme**:

- Daily mileage (miles)
- Daily electricity used (kWh from the vehicle battery. If this is not available then kWh supplied by the vehicle charger could be used instead)
- Round intensity indicator (e.g. total number of bins lifted, compaction cycles)
- Total amount of waste collected (kg)
- Total operating hours (hours and minutes)

How Data Should be Provided to Cenex

- The Vehicle Performance Data table below assumes that vehicle data will be collected using automated telematics systems fitted by the vehicle manufacturer or contractors working on their behalf and that daily summaries of the data will be supplied to Cenex.
- Cenex is happy to discuss data collection options with Local Authorities and their vehicle suppliers to facilitate the data collection process to make it as simple and efficient as possible for all parties.
- For example, the direct download of detailed vehicle telematics data by Cenex for subsequent processing offers another option for data collection that can be explored if required.

Data Hierarchy

The following terms are defined in relation to the data hierarchy:

- **Essential** – absolute minimum amount of data or information required for Cenex to assess the performance of BEVs against diesel baseline vehicle (energy consumption, maximum operating range, reliability, running costs and emissions savings).
- **Desirable** – additional data that can improve the accuracy of the results compared to the essential data only.

Vehicle and Infrastructure Procurement Checklist

Data Requirements

The following tables define the data requirements. Where appropriate, each table also details the preferred data collection method followed by the preferred data format and units. Relevant notes or deviations are described after each table.

Vehicle Performance Data

One row of data should be provided for every day of operation for new vehicles in the programme.

Data / Information	Format and Units	Example Data Sources
Vehicle Registration Number	XX##X##	Manual Driver Record
Start Date and Time	01/11/2020, 06:00	Vehicle Telematics
		Manual Driver Record
Route ID	Unique Route ID	Manual Driver Record
Driver ID	Anonymised Driver ID	Manual Driver Record
Work Type	Domestic, Trade, Missed Bins	Manual Driver Record
Distance Covered / Hour operated (for Sweepers)	Km / Hrs	Vehicle Telematics
		Odometer Readings (at start and end of shift)
Electricity Used (one or more of the following). <i>If this information is not available a further option is to get energy data from vehicle chargepoint. This should be discussed further with Cenex if required</i>	kWh	Vehicle Telematics
	% State of Charge	Instrument Panel (at start and end of shift)
	kWh / 100 km (or equivalent)	Trip Computer (reset at start of shift, recorded at end of shift)
End Date and Time	01/11/2020, 14:00	Vehicle Telematics
		Manual Driver Record
Number of Loads	1	Vehicle Telematics Manual Driver Record <i>(at least one indicator of round intensity is required)</i>
Number of Individual Bins Lifted	700	
Number of Compaction Cycles	700	
Payload (per transfer)	10,000 kg	
Notable Deviations	Text such as vehicle settings changed, adverse weather conditions, different route etc.	Manual Driver Record

Vehicle and Infrastructure Reliability Data (Operation Notes)

One record should be supplied for all scheduled and unscheduled service, maintenance, or repair events. This file must also contain any reason for which the vehicle did not operate in a given day, be it a planned reason or an unplanned scenario. These records will be required for each BEV and a diesel comparator vehicle.

Non – Operation Notes

Data / Information	Format and Units
Vehicle Registration Number	XX##X##
Vehicle Off Road Start	01/04/2021 08:35
Vehicle Off Road End	03/04/2021 17:00
Operation Type	Planned / Unplanned
Reason for Vehicle Being Unable to Complete Planned or Unplanned Operations	Not operated / Inspection / Fault & repair details
Battery Charge at Off Road Start Time (if applicable)	% of battery remaining at start
Non-Operation Remedial Action	E.g. Use of a diesel vehicle
Zero Emissions System Fault	Y / N

Maintenance Notes

Data / Information	Format and Units
Vehicle Registration Number	XX##X##
Vehicle Off Road Start	01/04/2021 08:35
Vehicle Off Road End	03/04/2021 17:00
Maintenance Type	Planned / Unplanned
Maintenance Description	Not operated / Inspection / Fault & repair details
Labour Cost	£#,###
Parts Cost	£#,###
Zero Emissions System Fault	Y / N