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## NIA Project Annual Progress Report Document

### Date of Submission

Jul 2025

### Project Reference Number

NIA2\_NESO056

## Project Progress

### Project Title

Impact of New Technology HGVs

### Project Reference Number

NIA2\_NESO056

### Project Start Date

February 2025

### Project Duration

0 years and 10 months

### Nominated Project Contact(s)

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## Scope

The scope of this project includes the assessment and modelling of the future impact of HGV charging on the GB energy network. The aim is to create realistic within day profiles for the future GB electric heavy-goods vehicles (HGVs) fleet. This will be achieved in three main phases:

- Desk top study of HGVs, their travel patterns and the likely uptake of electric HGVs summarised into a literature review report.
- Extensive stakeholder engagement of HGV operators and wider industry stakeholders to understand constraints to smart charging and their likely price sensitivity. A stakeholder survey and targeted stakeholder interviews will be held over the first 3 months of the project, analysis of the results from these will then be used to modify and validate the final model.
- Production of a model outputting the within day electricity demand profiles of electric HGVs and their capability to shift their load.

## Objectives

- To understand the GB HGV operator likelihood to smart charge, under different use cases and duty cycles, and also understanding the price signals required for operators to uptake smart charging.
- Modelling of the in-day charging profiles for different operator segments and vehicle types at each charging location, and how this scales up to the GB level fleet as a whole.
- To understanding the opportunity for smart/managed charging at the different charging locations, and what this overall opportunity looks like at a GB level.
- To understand the scope for demand matching supply and DSR vs electrolysis.

## Success Criteria

- Output of the defined python-based model or a spreadsheet producing the required inputs to Plexos and to enable periodic/ updates and sensitivity testing.
- Stakeholder engagement framework clear, with partners across the energy industry identified and actively engaged

## Performance Compared to the Original Project Aims, Objectives and Success Criteria

National Energy System Operator (“NESO”) has endeavoured to prepare the published report (“Report”) in respect of Impact of New Technology HGVs project, NIA2\_NESO056 (“Project”) in a manner which is, as far as possible, objective, using information collected and compiled by NESO and its Project partners (“Publishers”). Any intellectual property rights developed in the course of the Project and used in the Report shall be owned by the Publishers (as agreed between NESO and the Project partners).

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### Project Aims:

The project has only recently started so it has not yet achieved any of its objectives but has made progress towards delivering them with the completion of the first work package. Work package 1 has delivered a desk-based study of Heavy Goods Vehicles (HGVs), their travel patterns and the likely uptake of electric HGVs from literature which has informed the stakeholder engagement work which will take place as part of work package 2. Stakeholder engagement activities are also under way; surveys have been sent to stakeholders and work to increase engagement with these surveys is ongoing. In preparation for the development work initial work to define the requirements for the in-day charging profile model has also begun.

### Objectives:

The project has made some progress towards the delivery of its overall objectives as outlined above. None of the final objectives have been fully achieved yet as these rely on both the outputs from the desk-based study in work package 1 being completed as well as the analysis from the stakeholder engagement which is still under way.

### Success Criteria:

Stakeholder engagement activities are currently under way, we will not know if this has successfully generated data which can be used for model development until this has been completed, and the data has been analysed.

Work to develop the model is only just beginning with the definition of key requirements to ensure the developed model will be compatible with existing forecasting tools and processes.

## Required Modifications to the Planned Approach During the Course of the Project

No modifications to the project approach have been required so far. The proposed approach has proved feasible in our preliminary works.

## Lessons Learnt for Future Projects

None identified at this stage in the project.

Note: The following sections are only required for those projects which have been completed since 1st April 2013, or since the previous Project Progress information was reported.

## The Outcomes of the Project

We have not yet fully achieved any of the key project outcomes but have made progress towards these as defined in previous sections.

## Data Access

Details on how network or consumption data arising in the course of NIA funded projects can be requested by interested parties, and the terms on which such data will be made available by NESO can be found in our publicly available “Data sharing policy related to NIA projects (and formerly NIC)” and Innovation | National Energy System Operator.

National Energy System Operator already publishes much of the data arising from our NIA projects at [www.smarternetworks.org](http://www.smarternetworks.org). You may wish to check this website before making an application under this policy, in case the data which you are seeking has already been published.

## **Foreground IPR**

No foreground IP has been generated at this stage of the project.