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Scaling the transition towards zero emission fleets: focusing on last-mile solutions Point of view 2025

Supply Chain & Network Operations (NL)

### The journey towards a decarbonized fleet



Focus of this document

Achieving full fleet decarbonization requires a comprehensive strategy that addresses emissions from all stages related to upstream, operations, and end-of-life activities in a vehicle's lifecycle



<sup>1</sup>The lifecycle emissions are calculated based on a combination of lifecycle assessments of four common electric vehicles used in our simulations, in unloaded state, operational in the UK, and a total distance driven of 500,000 km per vehicle

## This transformation starts with fleet electrification, but using renewable energy sources and eliminating upstream and end-of-life emissions is required to fully decarbonize



Note: The lifecycle emissions are based on the average of the four most common vehicles in typical last-mile delivery fleets, in unloaded state and with energy consumption in the UK, and a total distance driven of 500,000 km per vehicle

## The decarbonization potential of fleet electrification varies based on the geographical center of gravity of your operations and tailored/local strategies can be chosen accordingly



• Electric vehicles rely on grid energy as fuel, and the environmental impact of grid energy varies per region. Prioritizing greener sources like solar and wind reduces carbon intensity

- In countries like India and China, there is currently still a high carbon intensity for generating electricity from fossil fuels which might (temporarily) make ICE vehicles more sustainable
- Ensuring renewable electricity generation is vital to maximize EV benefits. In the next deepdive, we discuss strategies to achieve this goal

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### GEOGRAPHICALLY TAILORED SOLUTIONS ARE REQUIRED TO EFFECTIVELY DECARBONIZE YOUR OPERATIONS



forward for mature geographies. In mature markets, the potential of electrification is the truly sustainable and desirable solution for a cleaner future

Transitioning to an EV fleet is the best way



Biofuel application in emerging geographies

For regions with a significant carbon intensity, we believe biofuels have a role in last-mile delivery. Biofuels can be a more sustainable alternative compared to ICE vehicles if electrification is not immediately effective

# Post-electrification, reducing your reliance on energy from the grid will enable you to decarbonize the operational energy consumed by implementing a diversified strategy of energy sources

An effective and diverse energy portfolio is crucial to eliminate emissions from energy consumption, whilst ensuring a reliable and redundant energy supply. There are various methods for sourcing energy, including:

- Grid energy | Electricity supplied from a central network with mixed sources
- On-site energy | Energy generated at the location of use, often via solar or wind
- Power Purchase Agreements (PPAs) | Contracts to buy electricity directly from renewable energy producers
- Guarantees of Origin (GOs) | Certificates verifying that electricity is sourced from renewable energy

The most sustainable and reliable approach combines on-site energy and PPAs, with GOs for verification, and grid energy as backup



#### Generate own carbon-neutral energy

Start actively with projects to power your fleet operations with on-site generated energy, such as installing solar panels at logistics centers

#### Purchase of renewable energy

Secure long-term, cost-effective renewable energy for your fleet by purchasing directly from providers or through Power Purchase Agreements (PPAs). Also, incorporate contracts that guarantee renewable energy generation



#### **Purchase of Guarantees of Origins**

Compensate for unavoidable emissions by funding carbon reduction projects like reforestation or purchasing rights to label your energy as green at spot market prices. Additionally, match green energy with actual usage to minimize dependency on non-renewable sources

### To approach net-zero, it is imperative to develop decarbonized plans for upstream activities and a thorough, sustainable end-of-life strategy



## Achieving fleet decarbonization is a journey and a significant transformation, setting up the right capabilities helps to do it effective and create lasting value



### Get in Touch

With our experience and expertise, we are committed to helping you navigate the future with confidence



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