Dispelling Preconceptions about Fleet Electrification with insights from Real-World Data

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Fleets know they need to move to electric, but the path to get there can feel…

Hard

- Complex implementation & change
- Skill / capability development

Expensive

- Higher vehicle costs vs ICE
- Upfront infrastructure investments
- TCO Risk

Uncertain

- Operational disruption
- Rollout miscalculations
- Technology risk

Cost Preconception

“Fleet electrification is too expensive and not cost-effective.”

TCO is lower for EVs than diesel in many use cases and reducing as technology evolves and vehicle range extends.

(TCO - Total Cost of Ownership)

The Reality

Declining vehicle costs across all vehicle types

Up to

60%

Savings on fuel vs electricity

Promising regulatory landscape including ZEV mandate

Tax and Subsidy benefits dependant on vehicle type

Real-time feedback loop on energy efficiency

Maintenance savings of up to

40%

Smarter energy offerings

Better driver experience

Real Life Customer Cost Examples

£2.6m

Cost saving across 47% of a 500 strong van fleet, with no operational change required.

3x reduction

In spare capacity across the vehicles in the fleet allowing a lower fleet TCO (total cost of ownership)

£2,000 saved per month for 10 vans

Even with a relatively high energy tariff one fleet managed to identify a “first phase” of the transition with a large cost saving

Best practice with buses in Bogotá, Colombia

Customer Case Study

- ✓ 3 depots
- ✓ 400+ buses
- ✓ 21 superchargers 360W - each with 8 sockets
- ✓ Fully financed over 15 years
- ✓ 40% less maintenance
- ✓ Lower vehicle redundancy - 4-7%
- ✓ Cleaner and Quieter depots

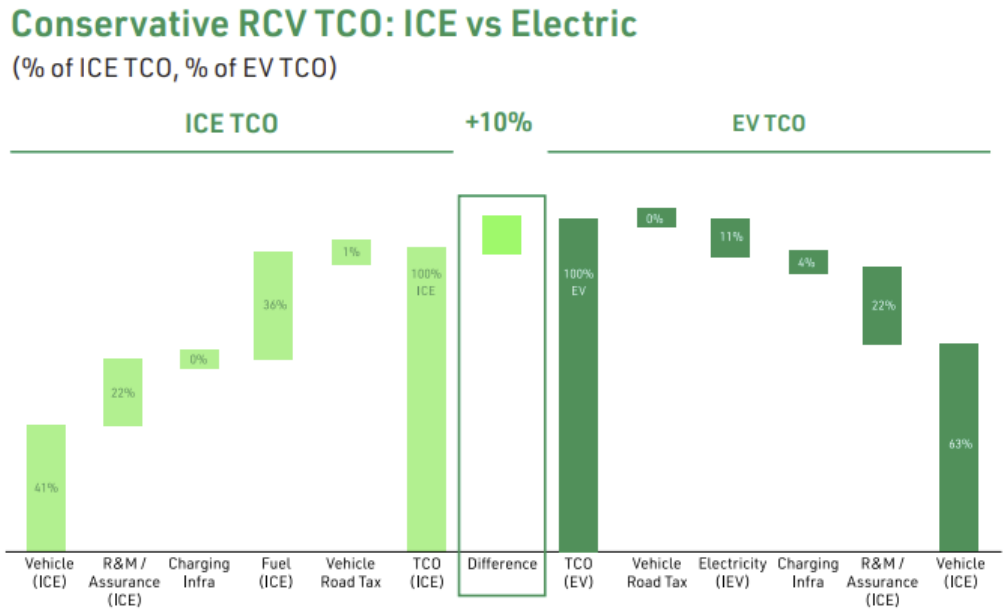
Modelling TCO for electric refuse collection vehicles - eRCVs - informed by real world operations

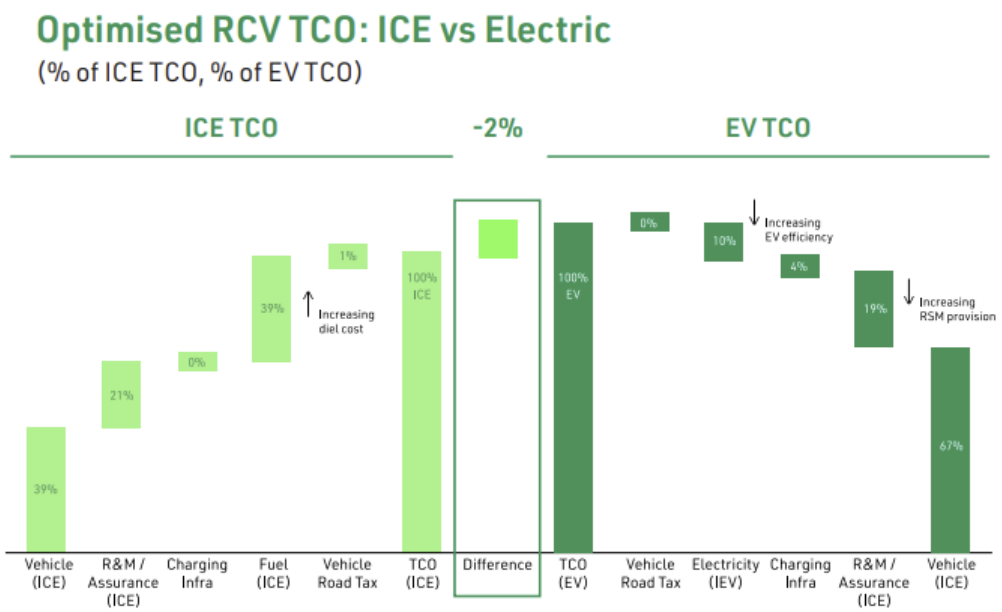
Deliver net zero emissions for net zero cost increase

1. Conservative TCO Comparison - electric = +10%
2. Optimised TCO Comparison - electric = -2%
3. With further optimisation - additional 14% TCO saving

Modelling across service, maintenance & repair strategy, vehicle technology advances and fuel regulatory policy.

Excludes fuel price increases and government subsidies that can make the TCO even more beneficial.





Operational Preconception

“My vehicles travel too far and can’t charge enough.”

Our modelling on real life use cases shows that EVs have more than adequate range for many fleets and it's possible to make operational changes to increase this.

The Reality

Improving vehicle performance with an almost 100% rise in observed miles/kWh

Faster charging speeds moving away from single phase charging

More capacity in operations to charge in daytime

Ability to shift operations to enable charging

More real-time fleet interventions with better data

Semi-private reliable out-of-depot charging solutions

Real Life Customer Range Examples

8.8X

A fleet of ~400 vehicles increased its readiness to electrify by modelling in depot DC charging

42% increase

Across a fleet of over 2000 vehicles, we modelled ‘charging at operations’ where AC chargers could be installed to top up vehicles in shift

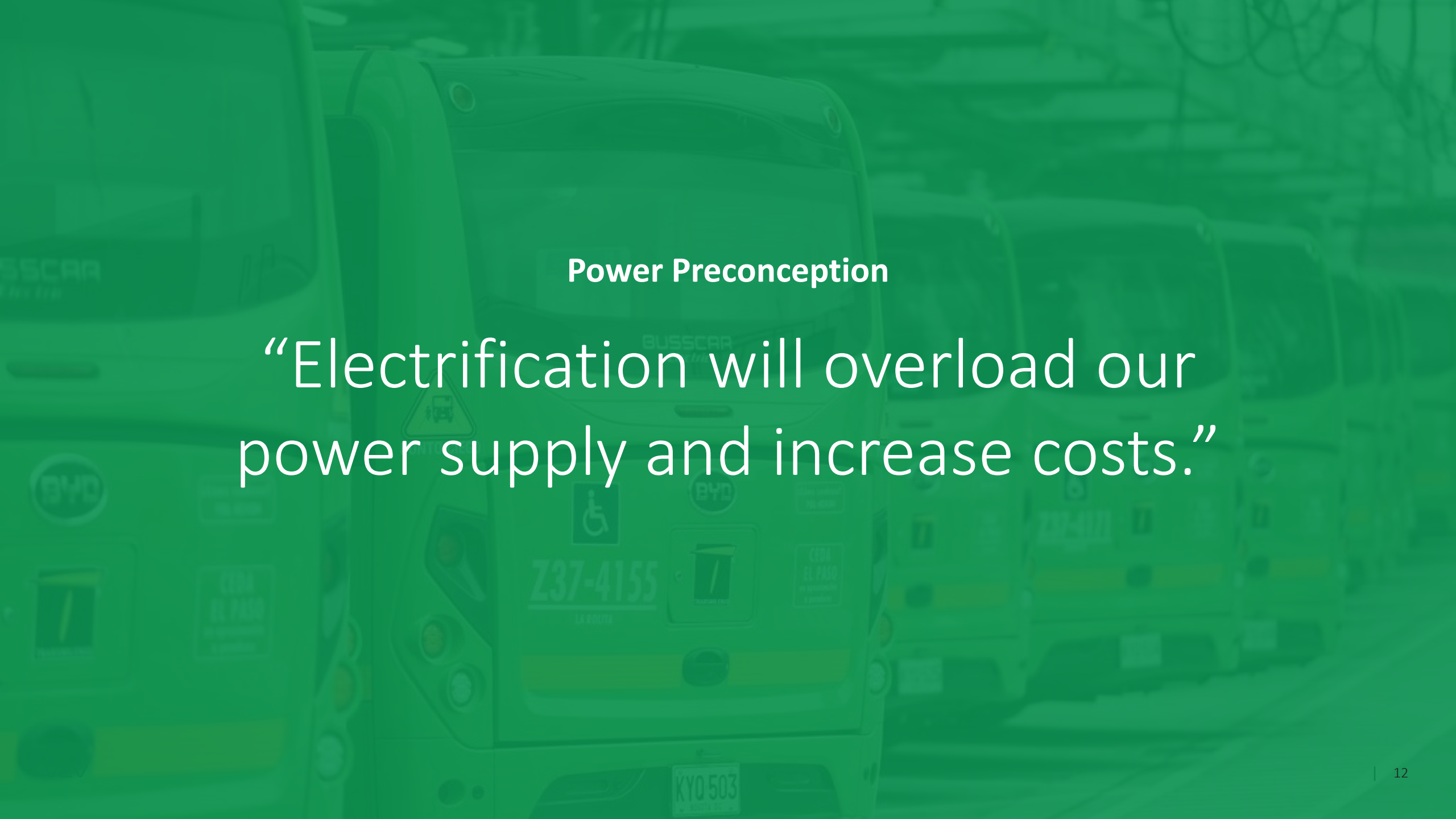
2X increase

For a specialised HGV fleet, in-day charging was modelled, and tasks were reassigned to other vehicles with available capacity

Bus Innovation with Opportunity Charging

Customer Case Study

- ✓ Continuous operations - no return to base to charge
- ✓ 6 powerful pantograph chargers at Fastrack BRT Thameside & Dover networks
- ✓ 450kW pantograph chargers charging 28 BRTs (bus rapid transit)
- ✓ Less than 6 minutes to top-up charge at each end of the route while passengers board
- ✓ Lighter bus battery, more passengers



Power Preconception

“Electrification will overload our power supply and increase costs.”

Power demand can be reduced with a robust energy strategy incorporating a micro-grid.

Smart energy management will minimise usage and optimise your energy tariffs.

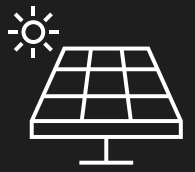
The Reality

Your vehicles may not need to charge as intensely or as much as you think

Small shifts in operations can massively reduce peak demand

Load management and smart charging manages peaks and costs

TOU* tariffs are an important tool



Microgrids can reduce total grid demand

Long term planning will help avoid pain points

*TOU - Time of Use

Real Life Customer Power Examples

2.3x

Modelling smart charging and vehicle energy demand, we reduced grid connection requirements by a factor of x2.3 leading to potential saving of **£150k**

17%

A major UK fleet modelled TOU tariffs and smart charging into its strategy and identified huge cost savings within its operating model

Microgrids

By installing solar power generation and battery storage for >50 vehicles, we created a charging solution that allowed 30 vans to go electric when the grid connection would only support 11

Smart Energy Management for Green Tourism Buses in London

Customer Case Study

TOOTBUS

- ✓ Powering EVs with 100% renewable energy
- ✓ Charging infrastructure at urban Wandsworth depot
- ✓ On-site solar generation to generate 65,000kWh and power 60,000 KM of bus travel per year.
- ✓ Using the VEV-IQ platform to monitor and operate within current low power capacity

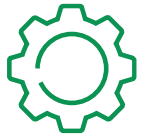
Fleets must be willing to embrace the change and adjust operations to achieve net zero emissions for net zero cost increase.

Strategy & Plan

- Analyse fleet, depot operations, and power data
- Phased transition programme
- Finance & business case

Design & Build

- Grid upgrade, solar & battery storage
- Vehicles
- Charging infrastructure
- Control Platform



Optimise Operations

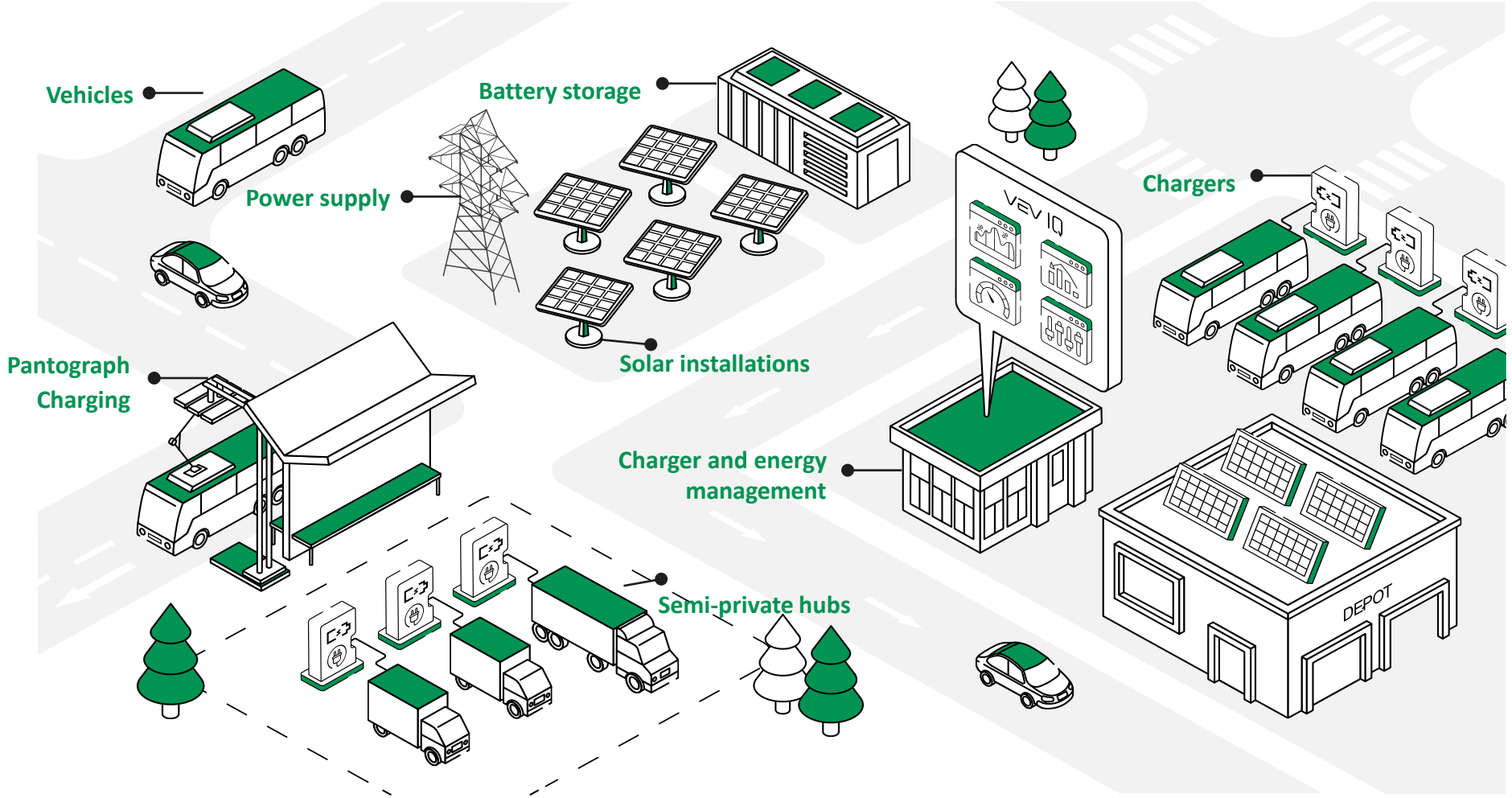
- Smart energy management
- Charging scheduling
- Driver training

Digital First Approach

Your data insights will be the difference between success & failure

- ✓ Power consumption
- ✓ Site capacity
- ✓ Seasonality
- ✓ Route details
- ✓ Vehicle efficiency
- ✓ EV roll out plans
- ✓ Vehicle operating patterns

VEV builds electrification solutions for commercial fleets - LCVs, Buses, HGVs



Owned by Vitol

World leader in energy

Deep connections into global energy markets

1.3GW

renewable capacity

$400bn

turnover

58 Years

in operation

Investing heavily in the energy transition

$2.5+bn

committed to sustainable investments

ask@vev.com