



# Electrifying Stagecoach Yorkshire – A Sustainable Transformation



## Stagecoach Yorkshire

The UK's public transport industry is undergoing a major transformation, and Stagecoach Yorkshire is leading the charge. The company's ambitious electrification strategy aims to create a cleaner, more sustainable transport network.

This case study explores the challenges, solutions, and impact of the Stagecoach electrification journey, focusing on the successful transformation of its Chesterfield depot - the first and largest of four planned projects in partnership with VEV.

## Project Overview

The Chesterfield depot is a flagship project for Stagecoach's electrification programme. Originally designed for traditional buses some 90 years ago, the depot has been transformed into a state-of-the-art charging and energy hub, capable of powering Stagecoach's incoming electric fleet.

The Chesterfield rollout will see 57 electric buses deployed in Spring 2025, replacing more than two-thirds of Stagecoach's diesel fleet serving Chesterfield and Northeastern Derbyshire. This project is funded through the ZEBRA 2 government scheme, Derbyshire County Council, and Stagecoach itself.

This initiative is part of a broader electrification strategy covering 150 electric buses across four locations: Chesterfield, Leamington, Nuneaton, and Rugby; all supported by VEV.

### At a glance

57

Electric buses

27

Dual 120kW chargers for 54 charging sockets

4.5MVA

Grid connection

48 tonnes

Of CO<sub>2</sub> emissions saved each year

11kV

New high voltage 11kV power connection

234kVp

Solar install generating 200MWh power plus savings

# Key Challenges

Transitioning from a diesel-based fleet to electric required overcoming several challenges:



### Infrastructure Overhaul

The existing depot infrastructure was not designed to support large-scale electric vehicle charging.



### Energy Management & Power Supply

Ensuring stable and cost-effective power supply to charge buses simultaneously required careful planning.



### Optimising Fleet Operations

Charging schedules had to be optimised to prevent grid overload while ensuring seamless daily operations.



### Stakeholder Collaboration

Coordination between multiple teams and partners was essential to delivering the project efficiently.

## The Solution: Building a Fully Integrated EV Depot

To solve the challenges of transitioning to electric operations, Stagecoach and VEV worked closely to design and deliver a modern, fully integrated EV depot. Each aspect of the solution directly addressed a key barrier to electrification.

### Modernising the depot

To upgrade the 90-year-old Chesterfield site, significant civil engineering works were required. The depot layout was redesigned to accommodate electric buses, with substantial groundwork to enable efficient parking, manoeuvring, and charging.

A new high-voltage (11kV) power connection was installed by Heffernan Utilities to meet the energy demands of the electric fleet. This was paired with state-of-the-art electrical infrastructure from Schneider Electric, including RMUs, 2x2MVA substations, and 2x3200A 21-way LV panels to distribute power across the site.

### Scaling charging capacity

To support daily fleet operations, 27 dual 120kW DC chargers from Ekoenergetyka were installed, providing 54 dedicated charging sockets. These were carefully sited to ensure safe and efficient charging across the entire fleet.

### Integrating renewable energy

A 234kWp rooftop solar system is being installed to reduce the site's reliance on the grid. This solar array is projected to generate approximately 200MWh annually, cutting energy costs by half compared to standard electricity prices and saving

### Smarter fleet and energy management

To manage the depot's energy use intelligently, VEV deployed its VEV-IQ smart charging platform. VEV-IQ synchronises with vehicle telematics to monitor real-time charge status, range, and location, allowing for optimised scheduling that balances operational readiness with grid efficiency. It also enables dynamic power purchasing for cost savings.

### Collaborative delivery and execution

Fox Construction UK led the delivery of all civil works, ensuring the site was future-proofed for electric operations. Novatec Electrical Services LTD managed the complex electrical installation, working closely with all stakeholders to coordinate timelines and ensure safety compliance throughout.

“Our Chesterfield EV depot marks a significant step forward in our electrification journey. VEV's support has been crucial in ensuring a smooth transition to electric operations. The sophisticated VEV-IQ platform provides us with the insights and control we need to optimise our fleet operations, make informed decisions, and enable additional revenue generation.”

**Tony Cockcroft,**  
Asset Management Director of Stagecoach

## Results & Impact

The transformation of the Chesterfield depot has already set a benchmark for future electrification projects. Key outcomes include:



### Improved Sustainability

Replacing diesel buses will significantly reduce emissions and improve air quality.



### Lower Energy Costs

Smart energy management and solar power reduce reliance on expensive grid electricity.



### Scalability

The project provides a scalable model for further expansion across other Stagecoach depots.



### Operational Efficiency

VEV-IQ's intelligent scheduling ensures cost-effective charging and reliable fleet performance.

## Future Expansion

With Chesterfield leading the way, we are now focused on replicating this success at Leamington, Nuneaton, and Rugby. These future sites will further cement Stagecoach's commitment to sustainable transport and its role as a leader in the UK's transition to electric buses.

As more cities and transport operators seek to decarbonise their fleets, the lessons learned from Chesterfield's electrification journey provide a valuable roadmap for achieving a cleaner, more efficient public transport network.

"The completion of the Chesterfield depot is the first deliverable in our relationship with Stagecoach. This isn't just about installing chargers – it's about fleet analysis, infrastructure, power optimisation, staff training, and ongoing operational support."

**Mike Nakrani,**  
CEO of VEV



## Key learnings for other fleets

### Modernising Takes More than Just Chargers

Reconfiguring old depots often requires deep structural and electrical work. Anticipate the need for new HV connections, substations, and comprehensive civil engineering.

### Energy Planning is Critical

Secure your grid connection early, and assess the financial and operational impact of on-site generation options like solar. Pair with smart energy systems to balance cost and performance.

### Technology Integration is Key

Adopt platforms like VEV-IQ that combine fleet telematics with charging systems to enable proactive management and real-time decision-making.

### Partnerships Drive Success

Strong collaboration between vehicle providers, infrastructure partners, councils, and utilities is essential. Open communication and shared milestones help align complex delivery timelines.

### Plan for Change Management

Transitioning to EVs is also a people project. Training, communication, and operational support are all vital to ensure staff feel confident and engaged throughout the transformation.

## Contact Us

Speak to us to find out how we  
can help you on your journey to  
fleet electrification

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