Energy and Fleet Management for Electric Vehicle Fleets

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managedcharging.com
Fleet Electrification is a certainty
Paradigm Shift in Fueling

Time

Rate

Quantity
Energy Demand

Five school buses in one day = Single family home in one month
Consumer solutions don’t work for fleets

- Location
- Operations
- Variability
Every fleet is unique

Vehicles

Operations

Energy
Focus shifts to energy management

“[Solution that].. helps fleet operators optimize energy and vehicle use by setting driving schedules and routes, charging intervals, and vehicle maintenance in alignment with customer demand, power prices, traffic conditions, and charging-station availability.”

Source: McKinsey & Company

Source: Charging electric-vehicle fleets: How to seize the emerging opportunity
Problem: Variable energy costs
Problem: Infrastructure costs

High peak load requirements

Infrastructure costs and delays
Problem: Operational Complexity

dispatch
energy rates
routes
battery
environment
more...
scheduling
rate planning
route optimization
logistics
rebalancing
more..
Solution: Intelligent Fleet and Energy Management

Fleet operations

Charging management
Case study: Twin Rivers Unified

- **40 Electric School Buses**
- **3 Charger Types**
- **Grants and Credits**
- **Engagement with Utility**
Electriphi Command Center

- Charged and Ready
- Save OpEx and CapEx
Managed charging benefits

- Reduce energy costs
- Avoid transformer upgrades

Graph showing managed charging benefits compared to unmanaged charging: Managed charging allows for a reduction in peak load during peak times, thereby avoiding the need for transformer upgrades.
Challenges are not unique

Transit

“If we cannot control demand charges, electricity is more expensive than diesel fueling”

School

“Our first priority is to have every vehicle charged and ready for dispatch”

Delivery fleet

“We’re not going 100% EV instantly. We need a transition plan”