

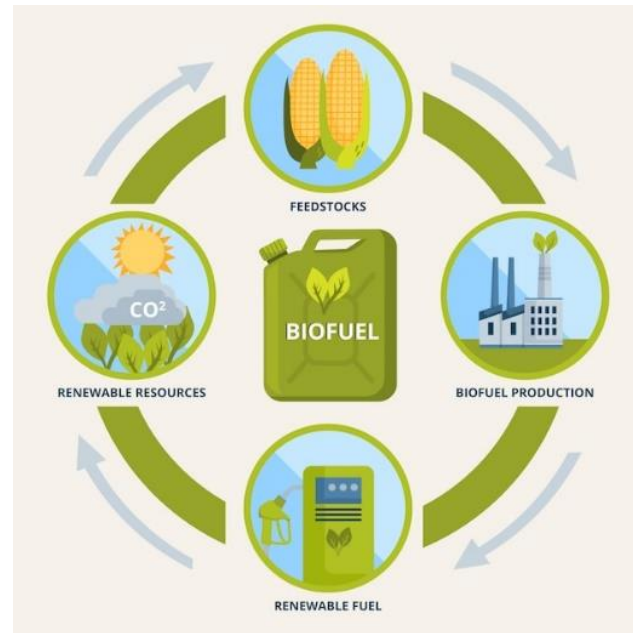
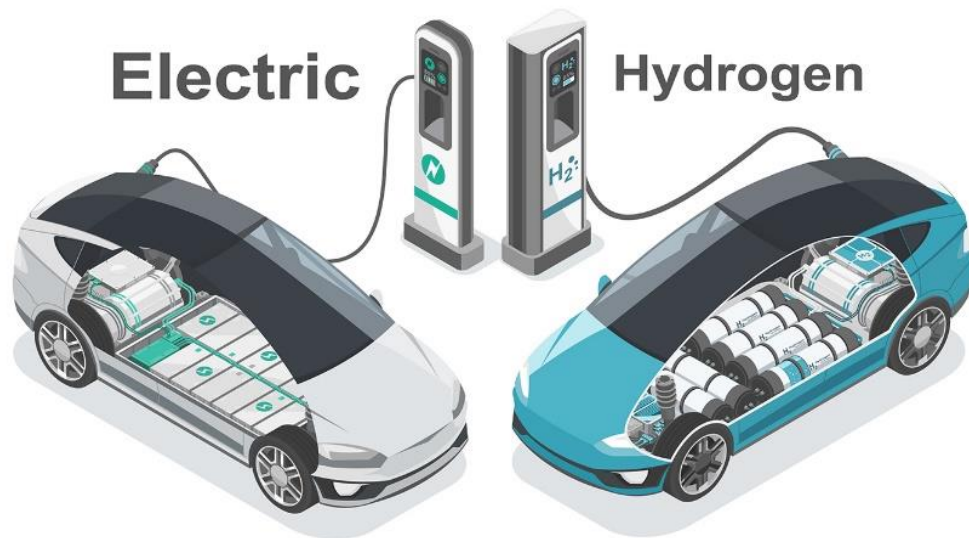
Something Different Fleet Decarbonisation

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Fleet Decarbonisation – Where to Begin?



Fleet Transition Phases

Initiation

Strategy

Planning

Procurement

Deployment

Fleet Transition Steps

1. Coordinate
Team and
Stakeholders

2. Gather Data
and
Requirements

3. Select Most
Suitable
Vehicles

4. Select Most
Suitable
Infrastructure

5. Complete
Site
Assessment

6. Complete
Power Supply
Review

7. Develop
Business Case

8. Develop
Procurement
Documents

9. Trial and
Deploy
Vehicles

10. Monitor and
Evaluate
Performance

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1. Coordinate Team and Stakeholders

- Set objectives
- Establish team
 - Assign roles and responsibilities
- Identify stakeholders
 - Engage with key stakeholders



Project Lead

Sustainability
Manager

Fleet Manager

Facilities
ManagerWaste
ManagerEnergy
Manager

Supervisors

Drivers and
Operators

Workshop



Finance

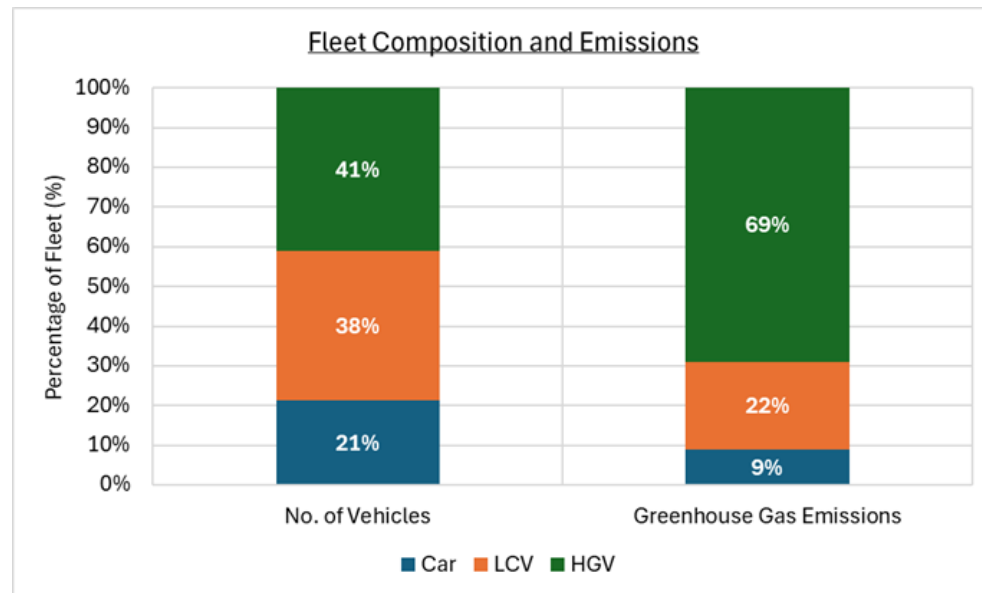


Procurement

Comms and
Marketing

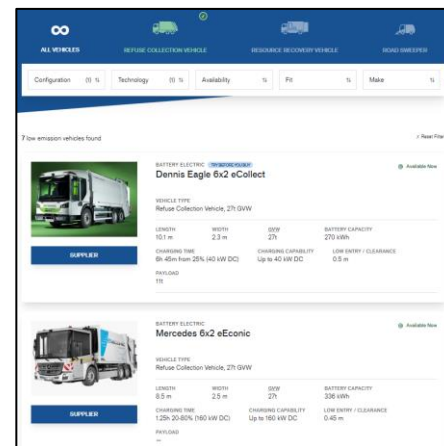
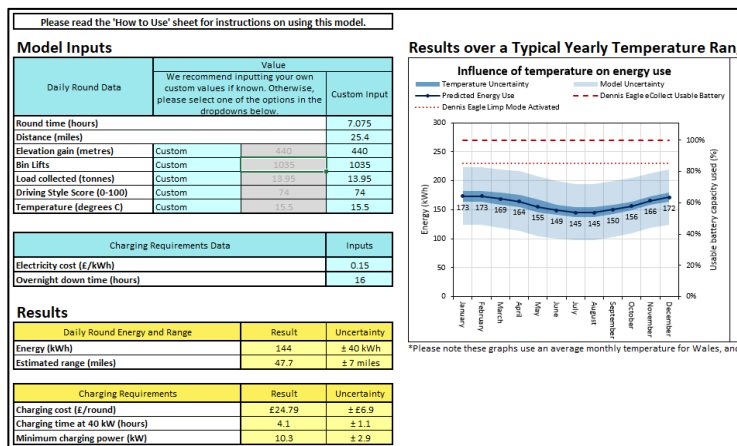
2. Gather Data and Requirements

- **Baseline your fleet**
 - Fleet list
 - Mileage
 - Fuel consumption
 - Emissions factors
- **Determine your requirements**
 - Vehicle specifications
 - Route characteristics
 - Charging / refuelling requirements
 - Data systems



3. Select Most Suitable Vehicles

- Assess the suitability of zero emission vehicles using real-world data, modelling or technical specifications to determine which vehicles and routes are already best suited to transitioning to ZEVs.
- Things to consider:
 - Technology
 - Supplier
 - Specs vs. requirements
 - Daily energy consumption
 - Operating hours



4. Select Most Suitable Infrastructure

- How much **energy** is required each day (kWh)?
- How much **time** is available for charging each day (h)?
- Select the appropriate chargepoint **power** (kW)
- Select the appropriate chargepoint **type**
- Optimise** infrastructure solution

Battery Size (kWh, usable)		140	210	140	210
State of Charge Required (%)		60%	60%	100%	100%
Energy Required (kWh, vehicle)		84	126	140	210
Energy Required inc. 85% Charging Efficiency (kWh, depot)		99	148	165	247
Time Available for Charging (h)	0.5	198	296	329	494
	1	99	148	165	247
	2	49	74	82	124
	4	25	37	41	62
	6	16	25	27	41
	8	12	19	21	31
	10	10	15	16	25
	12	8	12	14	21
	14	7	11	12	18
	16	6	9	10	15

Key
Min Charging Power
<7.4 kW
<22 kW
<25 kW
<50 kW
<150 kW
>150 kW

Wall mounted



Mobile



Standalone

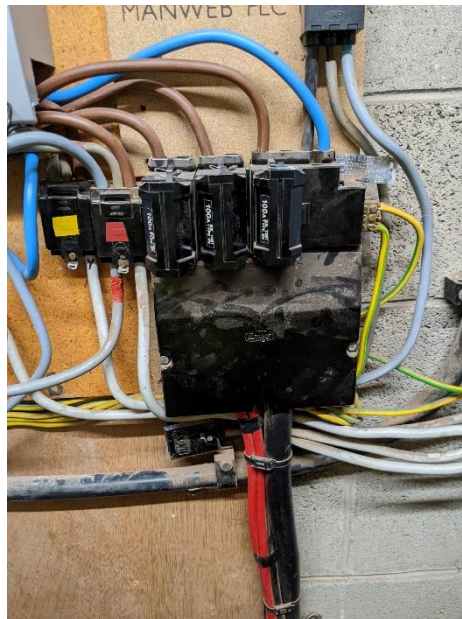


Distributed / Split Charging System

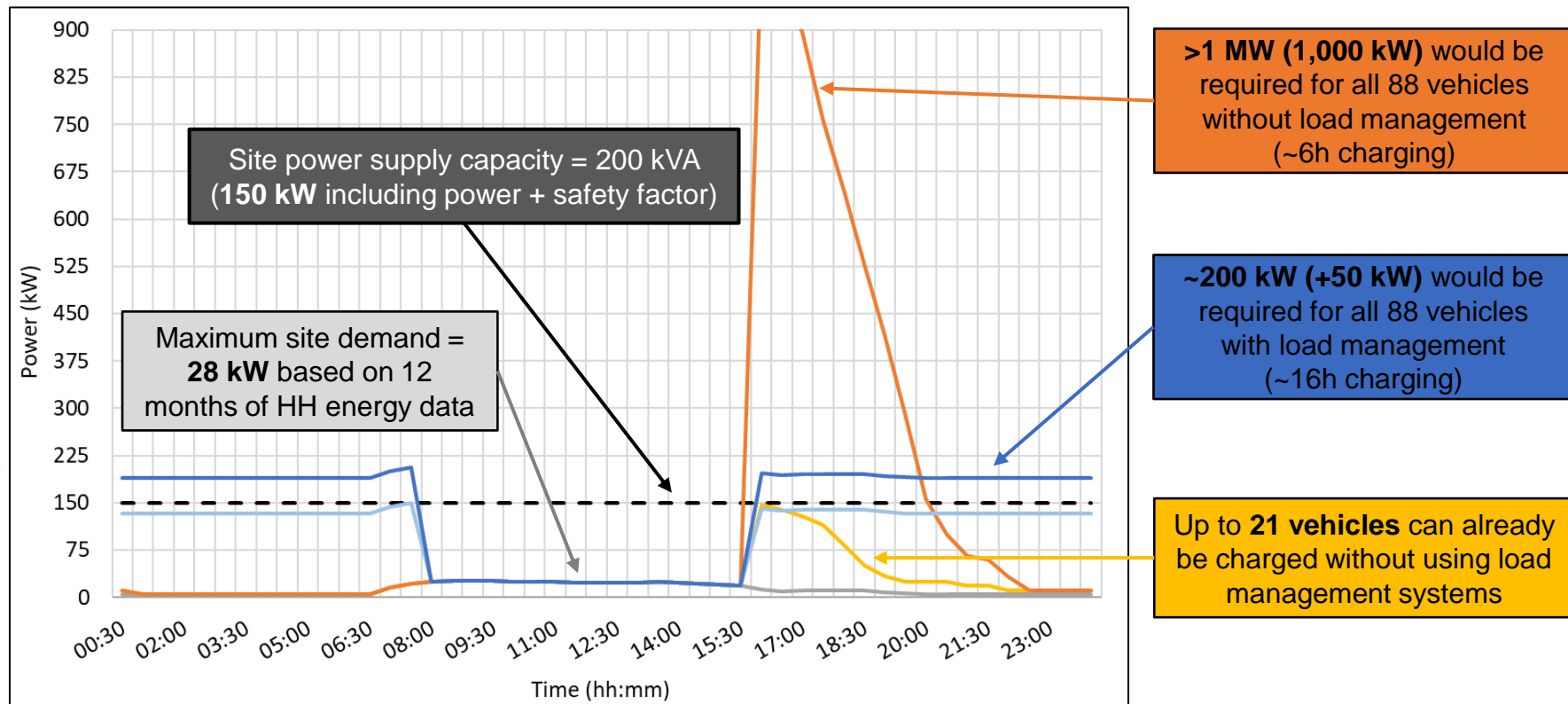


5. Complete Site Assessment

- What is the **power supply capacity** available (kVA)?
- What is the site's **maximum electricity demand**?
- Where do the vehicles park?
- Are there any existing EV chargepoints on-site?
- Does the site have any other large electricity loads?

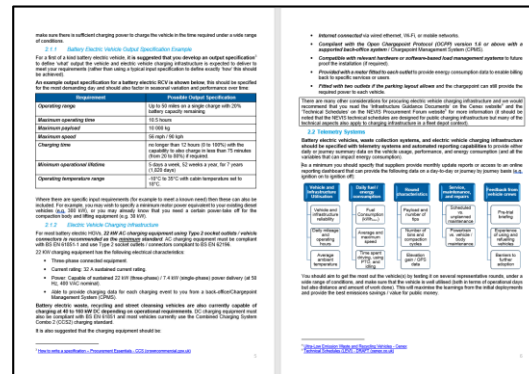
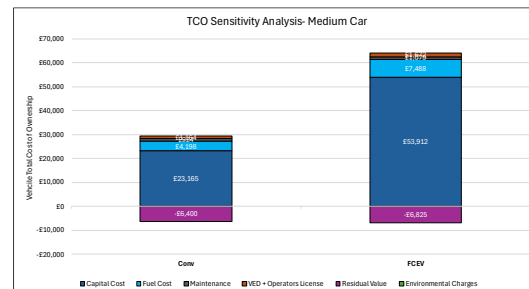


6. Complete Power Supply Review



7. Develop Business Case and 8. Procurement

- **Business Case**
 - Strategic, Economic, Commercial, Financial and Management Case.
- **Procurement Documents**
 - Use output specifications for specialist vehicles.
 - Engage with suppliers.
 - Evaluate supplier capabilities.
 - Specify warranty and service levels.



9. Trial and Deploy Vehicles









- Install and **commission infrastructure** before vehicles arrive.
- **Build in time for testing** and resolving issues before sign off.
- Deploy vehicles across a **selection of representative routes and conditions** to maximise learnings.
- Use trials and deployments to **optimise vehicles, routes and operations** for zero emission vehicles.



10. Monitor and Evaluate Performance

- Key Metrics

- Utilisation
- Maintenance and Repairs
- Performance
- Daily Energy Consumption
- Costs and Emissions
- Driver Feedback

		 RCV	 Sweeper	 RRV ¹
Vehicle Performance ²	Yearly Average			
		0.23 miles/kWh ENERGY EFFICIENCY	0.17 miles/kWh ENERGY EFFICIENCY	0.33 miles/kWh ENERGY EFFICIENCY
Emission Savings ⁴	Yearly Average			
		62 miles DRIVE RANGE ³	31 miles DRIVE RANGE ³	42 miles DRIVE RANGE ³
		8.2 tonnes WTW CO _{2e} ^{5,6}	3.6 tonnes WTW CO _{2e} ^{5,6}	4.8 tonnes WTW CO _{2e} ^{5,6}
		22 kg NO _x ⁷	20 kg NO _x ⁷	10 kg NO _x ⁷
		91 g PM 2.5 ⁷	66 g PM 2.5 ⁷	36 g PM 2.5 ⁷



Recommendations

1. **Plan** your fleet and infrastructure transition on a site-by-site, vehicle by vehicle basis.
2. **Engage** with your suppliers about your current and future requirements.
3. **Trial** zero emission vehicles under controlled conditions.
4. **Transition** quick wins to zero emission vehicles where cost effective, consider using renewable fuels as an interim solution.
5. **Assess** new battery electric and hydrogen fuel cell electric vehicles in the most challenging applications as they are released.
6. **Review** and update your operating practices, procedures and systems to better accommodate the capabilities of zero emission vehicles.

Thank you for listening

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