

Nottingham City Council

Fleet Electrification Case Study

“Forging Ahead With The Fleet”

Matt Ralfe – Innovation & Change Manager



Background

- 7.1t CO₂ emissions per capita p/a
- 28,000 – 36,000 deaths p/a in the UK from poor air quality, 400 in Nottingham
- History of **transport innovation**
- Commitment for **100%** of our fleet to be ULEV by 2028
- 2016-2022 - aim was to **set an example** for local fleet operators by **tackling the roadblocks** to converting to a low emissions fleet

Snapshot

- **243 EVs**– 51% of fleet
 - 134 Vans
 - 54 Cars
 - 14 Cage Tippers
 - 15 Sweepers
 - 6 Minibuses
 - 20 RCVs





Delivered savings

- £683k fuel and £324k maintenance annually
- 1,162t CO2 p/a, 9,700t over lifetime. Equivalent to planting 44,685 trees. £300k annual CO2 saving.
- Delivering services more quickly (45 mins on bin lorries)
- Vibrations, headaches, stress, dirt on drivers and loaders
- Increased compliments from citizens and customers

Infrastructure

- 204 chargers inc. 40 V2G
- Load management
- Bay management
- kW to match need
- Hard/soft dig, aesthetics
- Capacity (inc. amends to site)







“Micro Grid”

- 40 bidirectional chargers
- 138kWp solar panels
- ~720kWh battery storage
 - 48 ex-Renault Kangoo batteries
- 84 Nissan vehicles
- 2 MW substation
- Estimated £130k saving p/a + energy demand management





-  Sites added this month
-  Installed locations
-  Installation imminent
-  Projects in planning stages



D2N2 Charging Network

- Improve local infrastructure and encourage uptake of ULEVs
- **700+ sockets** across DE and NG postcodes
- Chargepoints available to commercial, personal and public fleets
- **Reduced tariffs** for D2N2 residents



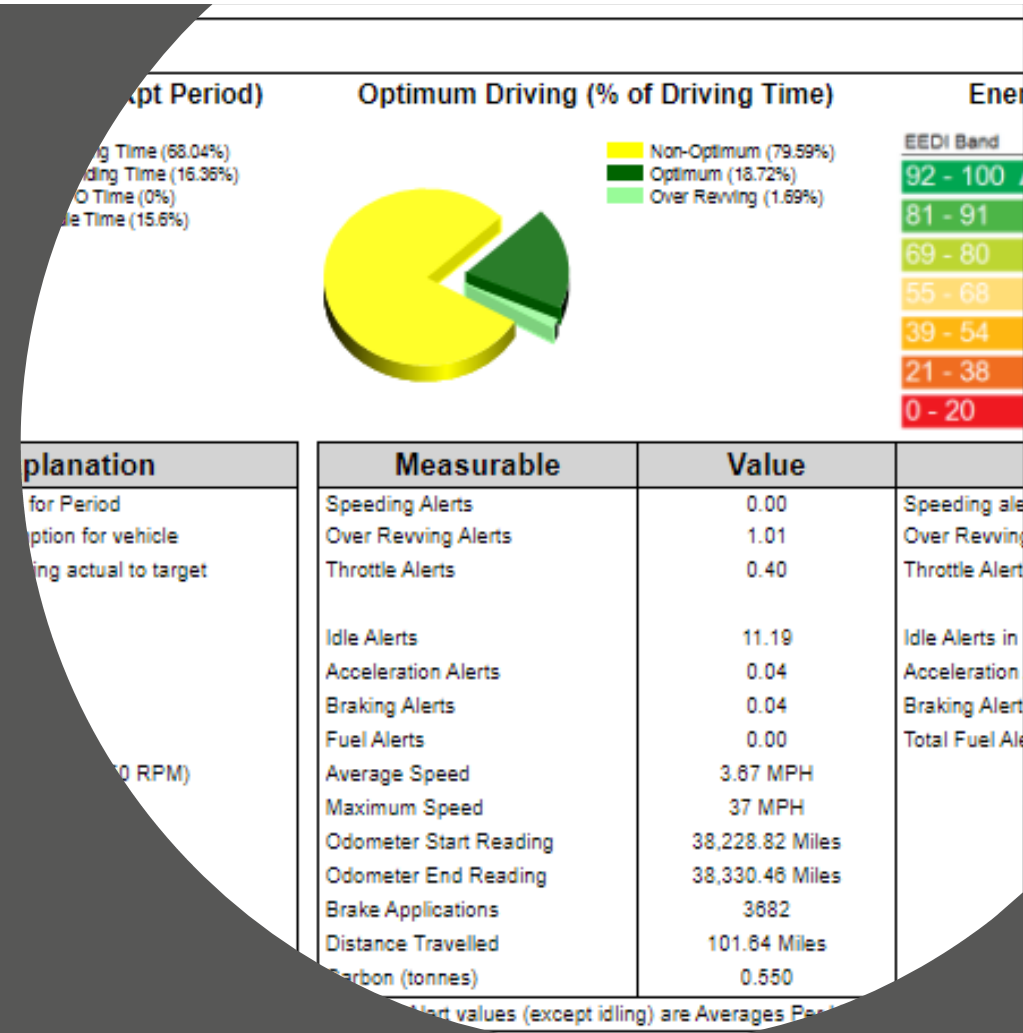


Maintenance

- Mechanic training and tools
- Exclusively ULEV garage
- Encourage potential EV buyers & mechanics

Do it now

- Latest emission standards on diesel
- Route optimisation
- Fuel additive
- Telematics – driver behaviour
- Vehicle optimisation



Business Cases

Be prepared for:

- Grants
- Budget underspend/changes
- Vehicle availability
- Political requests

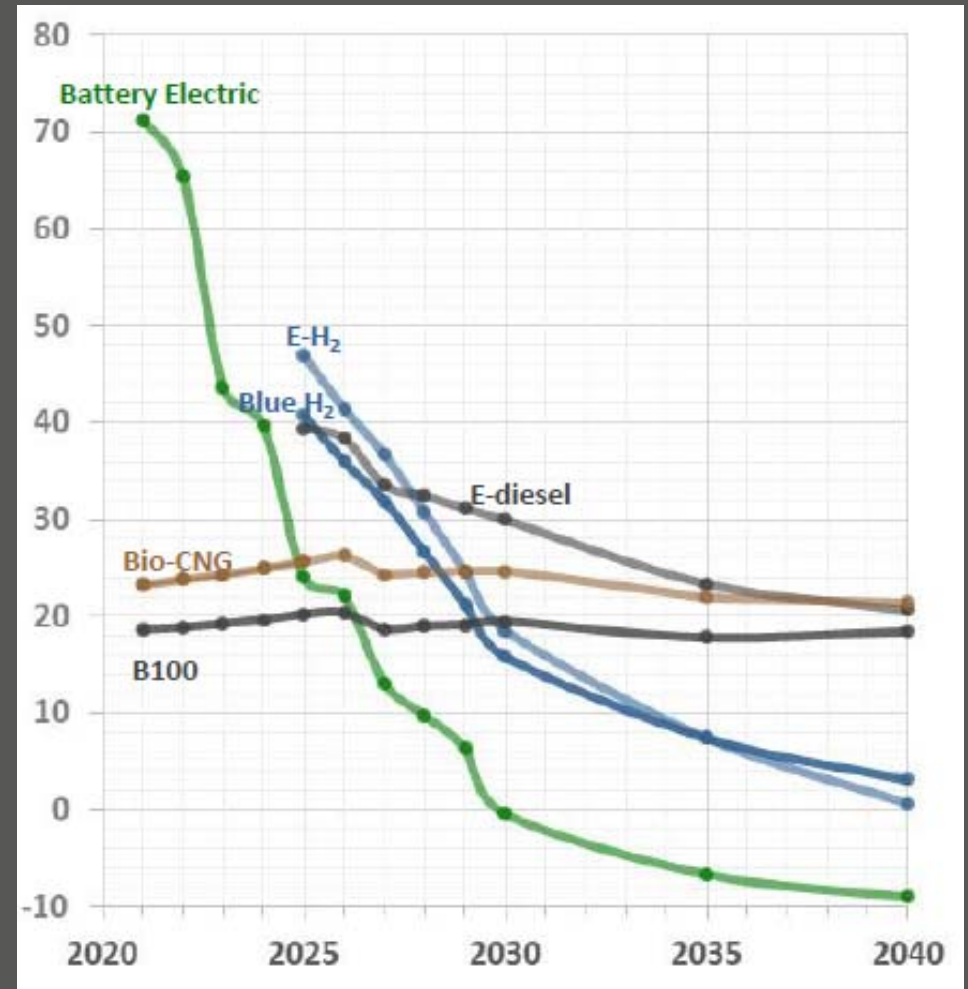
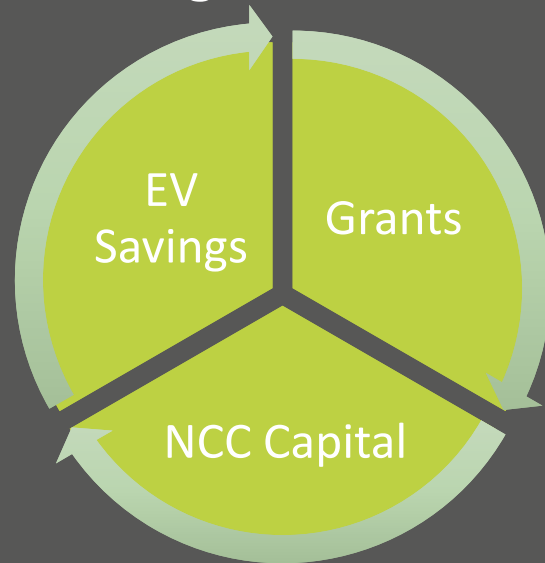
Be prepared with:

- Overarching documents and approvals
- Not 1 business case but 475
- Hit list and miss list
- Indirect benefits - driver, customer, political, service
- Work with the willing



Funding

- Ring-fence savings
- Total Cost of Ownership (£x)
- Fund EVs by defunding diesels



Graph credit: Renault Trucks



Driver Buy In

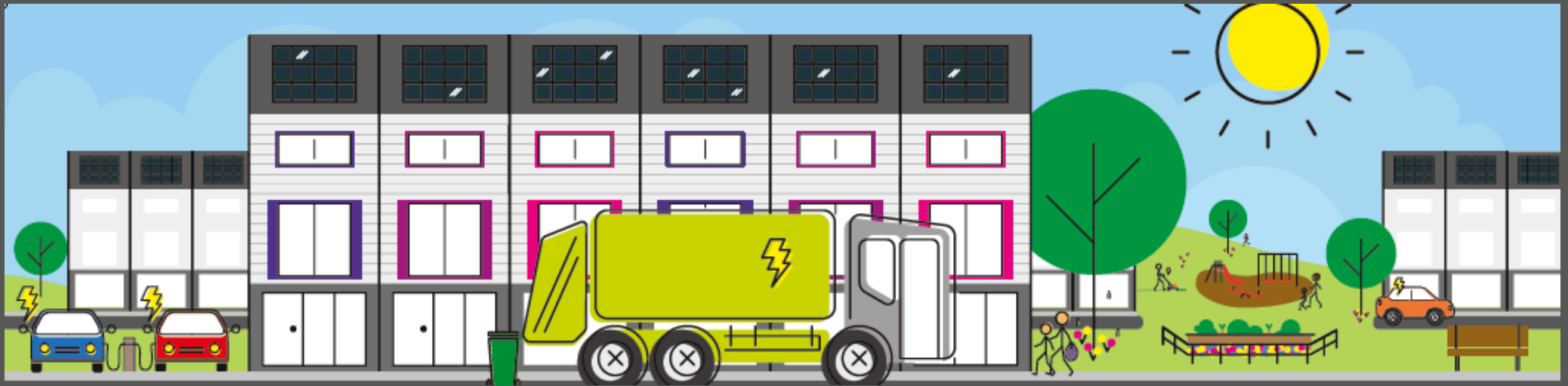
- Research
- Buy based on data
- Start small – buy in
- EV training



Other Options

- PV EVs
- ULEV Grey Fleet
- Local business trials
- HGV V2G
- Electric handheld
- Emobility Centre
- Wireless charging
- ULEV Lane





Website: www.nottinghamevservices.co.uk

Email: matthew.ralfe@nottinghamcity.gov.uk

LinkedIn: Matt Ralfe

