national gridESO

power responsive

Adam Sims

Power Responsive Manager National Grid Electricity System Operator



9th April 2019 The Energyst EV Event

Transformation of our industry





An agile system, responsive to consumer demand



Digitisation

Seamless, uninterrupted power on demand



Decarbonisation

Clean, cost-effective and affordable



Short Term Pain, Long Term Gain

Pain

- Market Access
- Transparency and Data Gathering
 - Uncertainty & Confidence
 - Investment Cases
 - Network Management
- Regulatory Changes & Restrictions

Gain

- Open and accessible markets
 - Transparency
 - Level playing field
 - Cost reflective
 - Efficient
 - Low Carbon

Cross Industry Collaboration

Government and Regulation

Network Operators

Suppliers

Distributed Energy

Resources

EV's

End Consumers



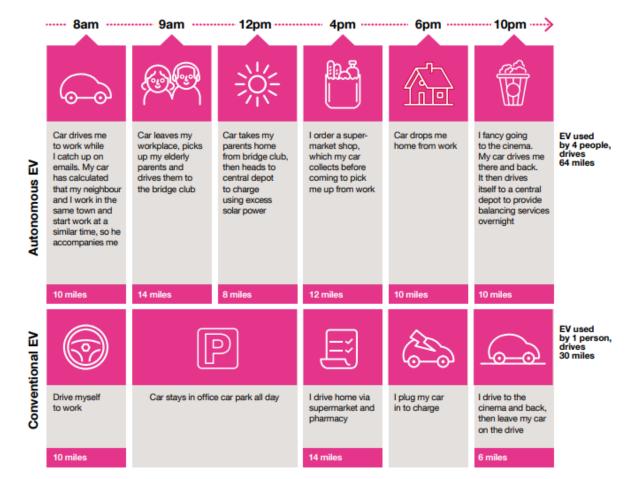
Future EV Scenarios

Electric vehicle growth goes hand-in-hand with electricity decarbonisation.

- Electricity demand is expected to grow significantly by 2050
- There could be as many as 11 million electric vehicles (EVs) by 2030 and 36 million by 2040
- Through smart charging technologies, the increase in electricity peak demand could be as little as 8GW in 2040
- In turn, EVs can support the rollout of renewables



Future EV Scenarios



Trials and Innovation







elementenergy







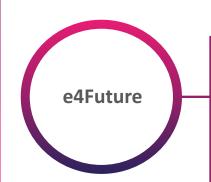




Funded through InnovateUK



Trials and Innovation





- Demonstration project looking to deploy 1000
 V2G installations to investigate:
- Optimal use cases for using V2G to offer power system services;
- The technical factors involved in aggregating large numbers of electric vehicles and charging/discharging to the grid;
- The impact on customers choosing to take advantage of V2G technology;
- Key barriers to V2G deployment













Please continue to engage with us



Continued input from across the industry is essential to our work as we look to create balancing service markets and products that work for all parties.

