Leicester Operational Pilot

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Leicester overview
Policy reasons for joining SEEV4-City
Leicester Pilot – V2B not V2G
Indicative layout of Leicester V2B system

Existing infrastructure
New infrastructure
Communications
Energy flow
Two-way energy flow
Design Issues

• No static storage

• Bi-directional charging and EV warranty

• DNO – a key stakeholder
Current situation and changes with V2B

• The Council already pays for renewable energy as its mains supply
• The V2B system will make more efficient use of that supply
Daytime Operational Protocol

• Top-up charging as the EVs come and go during the day
• How much is from solar?
Evening & Overnight Protocols
Meeting SEEV4-City Objectives

• Increase in ultra-low emission km – by closely monitoring levels of solar generation coinciding with EV charging; to estimate solar input

• Increase in Energy Autonomy – by EVs discharging to City Hall during evening energy peak

• Avoid grid investments – by EVs discharging to City Hall during evening energy peak and scheduling the principal EV recharge for overnight
Leicester’s learning from SEEV4-City

- Provides first-hand experience of new approaches needed to decarbonise transport – whilst mitigating demand on the grid from increased EV use
- Flags need for new energy-transport skill sets
- Provides experience in line with ideas in key UK Govt strategy document

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Simulated Results

• Due to the delays with the Leicester Pilot – project partner Northumbria University working on simulating results

• Using data supplied on;
  • Solar generation & mains supply
  • EV charging
  • EV telemetry
  • V2B technical specification
  • City Hall electrical details
Thank-you

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