

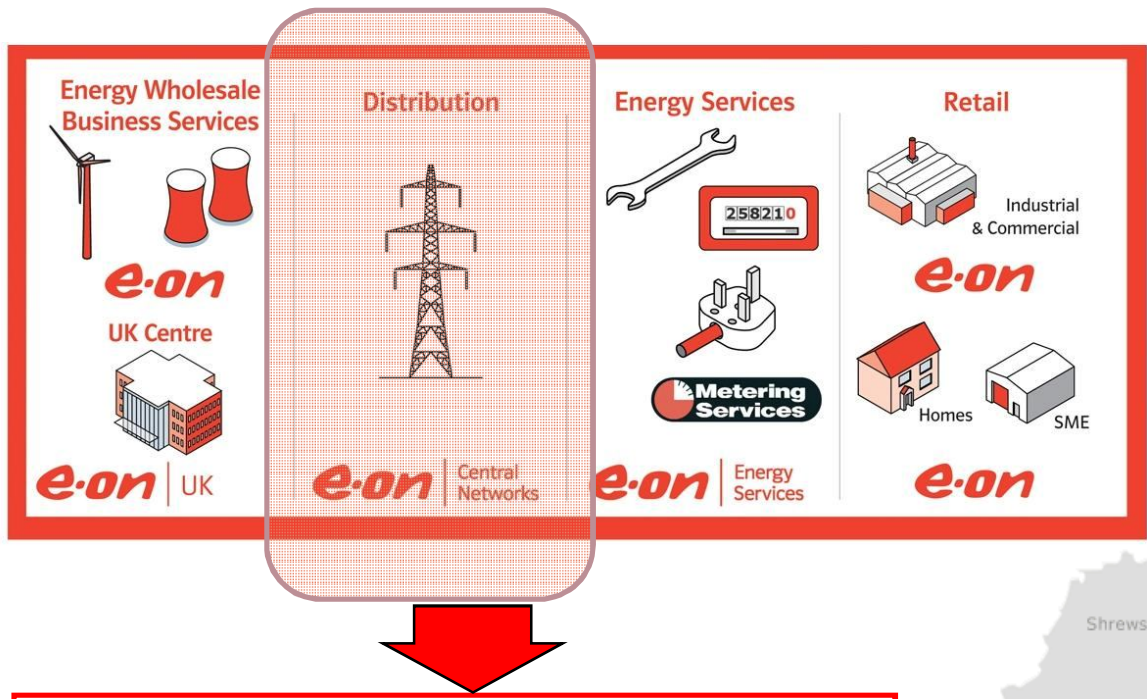


Developing Low Carbon Networks

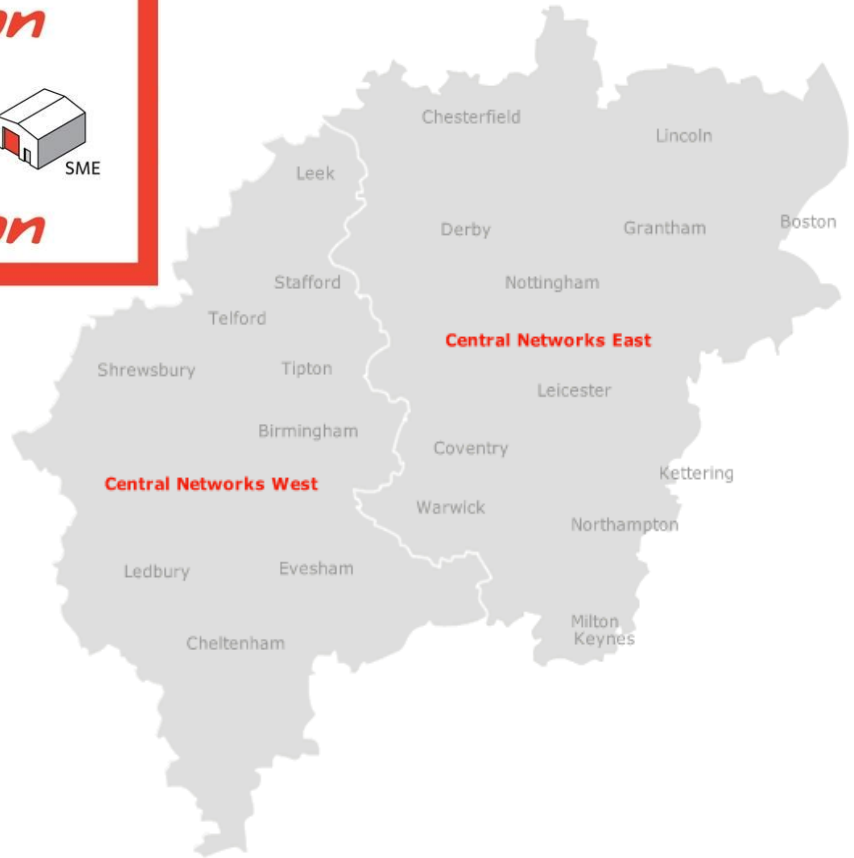
West Midlands Cluster Conference

Tuesday, 22 June 2010

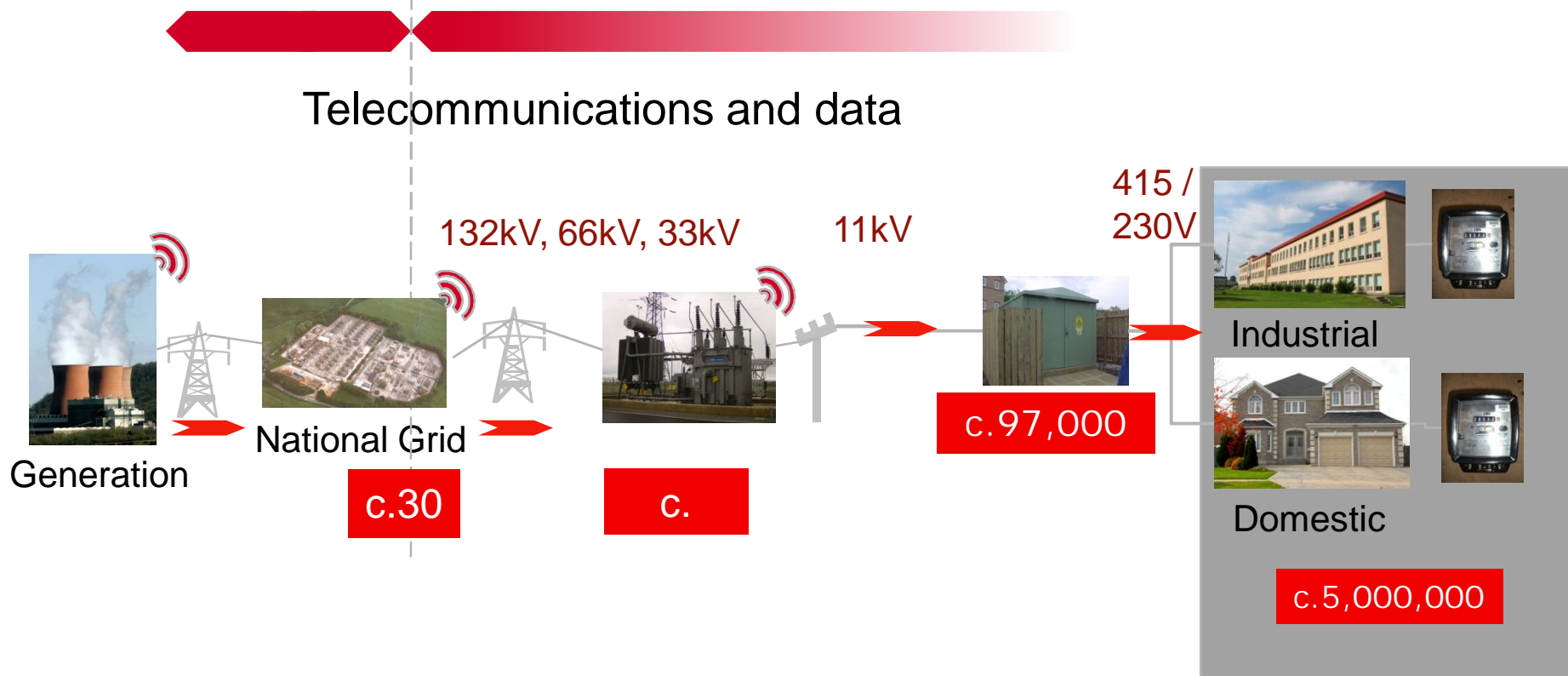
Matthew Freeman



- **Key facts:**
- **Area ≈ 32,000 sq. km**
- **c.5 million residences and businesses**
- **c.50 billion kWh per year**
- **Maximum demand c. 10 GW**



Today's Electricity Network



...joined together by 130,000km of lines and cables

DECC: by 2020...

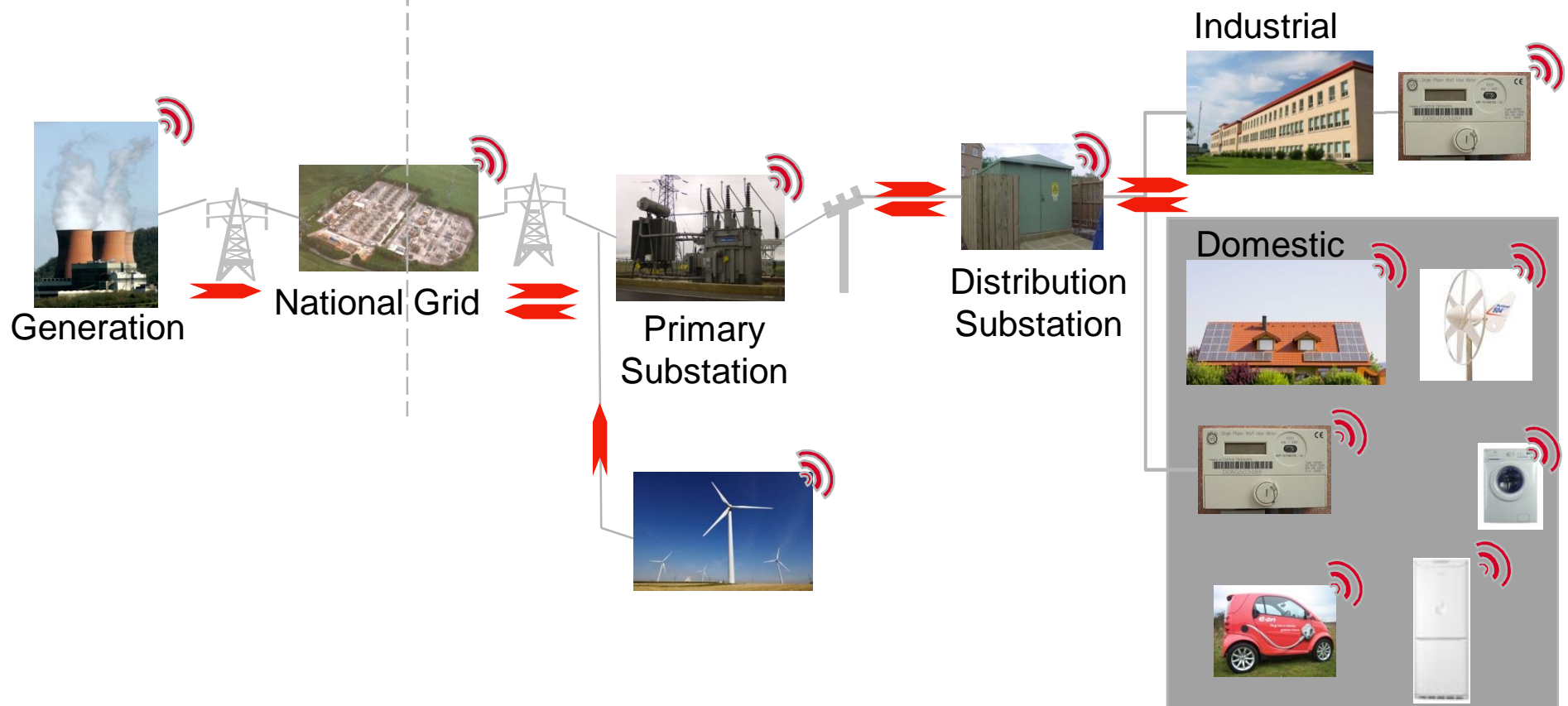
- 1.5 million households will be producing clean energy.
- c.40% of all electricity will come from low-carbon generation.
- Cars will emit 40% less carbon (electric vehicles etc.)
- Smart meters will allow customers to better manage their consumption.



- Innovation required to explore how networks will need to adapt to help facilitate the LCTP.
- Smart Grids are seen as an efficient solution:
 - New technologies and commercial arrangements need to be tested.

Future 'Smart' Electricity Network

Transmissio	Distribution
Telecommunications and data	



Incentives



Innovation Funding Incentive

For DNOs to trial innovative techniques (R&D) on networks relating to sustainable development.

Low Carbon Network Fund (£500m)

For DNOs to trial new technology and commercial arrangements to help stimulate the low-carbon economy.

Tier 1 - projects within DNO control - typical share £3M pa DNOs - 10% of the project cost.

Tier 2 - small number of flagship projects. DNOs compete to an Ofgem panel - up to two submissions pa. Average DNO contribution to the fund of £12M pa (10% of the project cost, with the remainder from the LCN fund).

Third component - £100M discretionary reward for projects that bring particular value to the low carbon economy.



Feed In Tariffs (2010)

a.k.a. Clean Energy Cash Back Scheme. Support aimed at small low-carbon generators – up to 5 MW. Payments for generation and export.

Renewable Heat Incentive (2011)

Generation of renewable heat at all scales - households, communities or industrial.

etc.

Key Challenges:

- Communications infrastructure
- Information Technology architectures
- Commercial frameworks
- Regulatory frameworks
- Security of customer data
- Stakeholder Engagement

Need for cross industry collaboration:

- Network operators
- Development Agencies & Councils
- Retailers
- Metering organisations
- Government
- Consumer organisations
- Technology providers
- Skills

