



SmartGridGB

For an intelligent future

Smart Grid in the UK – Market Opportunities
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SmartGrid GB Operations Board member
Business Development Director, Utilities for Cable&Wireless Worldwide



INTRODUCTION

- About SmartGrid GB
- Automation in the UK smart grid
 - Low Carbon Networks Fund
 - RIIO funding
 - FIT
 - EMR
 - Smart meter rollout
 - Plugged in Places
- Conclusions

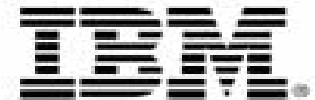


ABOUT SMARTGRID GB

- A cross industry stakeholder group dedicated to acting as the national champion for smart grid development in Britain.
- SmartGrid GB's mission is to promote the development and delivery of smart grid in Britain to help:
 - deliver secure and reliable energy supply;
 - provide consumers with affordable energy in the decades to come;
 - enable our national transition to a low carbon economy, and
 - create a global leadership position in the low carbon sector
- The creation of smart grids is of fundamental importance to the British economy
- SmartGrid GB has a key role in bringing stakeholders together to understand what needs to be done and how we make it happen.



ABOUT SMARTGRID GB: MEMBERSHIP



ABOUT SMARTGRID GB: WORK PROGRAMME

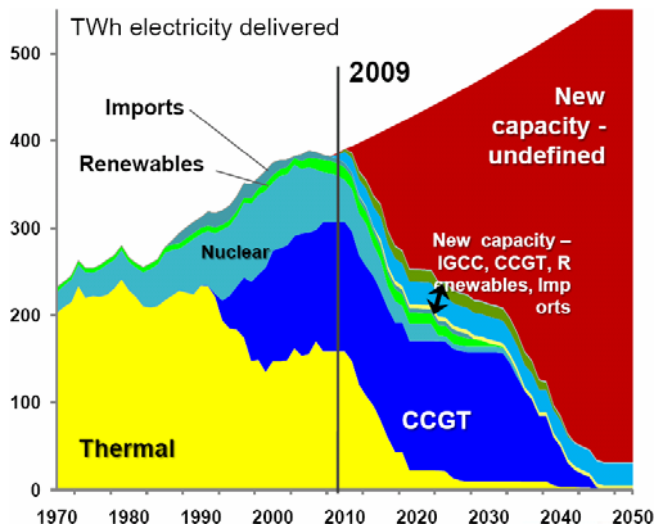
- Workstream 1: **Benefits (Consumer, Economic, Environmental)**
 - To lead SGGB's advocacy on the consumer, economic, and environmental benefits of smart grid development
 - Promote a dialogue on the role of smart grids in delivering consumer, economic and environmental benefits
- Workstream 2: **Policy and Regulation**
 - To lead SGGB's work on providing advice to policymakers on how the main policy and regulatory barriers to smart grid development can be best overcome
 - Activity being developed to be complementary to the activity of the Smart Grids Forum
- Workstream 3: **Technology and Commercial**
 - To lead SGGB's work on providing advice to policymakers and industry on how the main commercial and technological barriers to smart grid development can be best overcome, and how the commercial opportunities can be realised
- Workstream 4: **Smart Grids Hub**
 - To provide an intelligent hub in which the smart grid community can share ideas and knowledge, help the value chain work effectively, and help promote smart grid to the wider stakeholder community
 - Creation of an intelligent hub where the smart grid and broader stakeholder community can share knowledge and ideas



THE UK LANDSCAPE

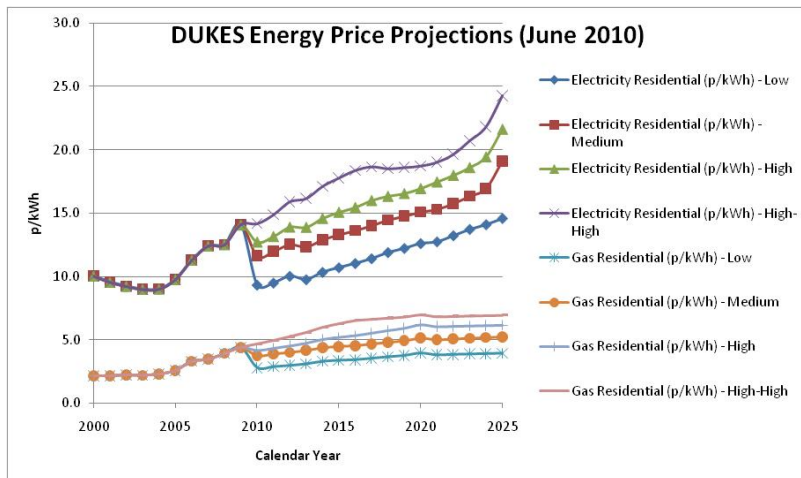


THE CHALLENGE OF DELIVERING RELIABLE, AFFORDABLE ENERGY



- “Energy Gap” projected 2016-2018
- Increase risk of interruptions to supply
- Implications for achieving climate change objectives

Source: Accelerating deployment of responses to the challenge of Climate Change,
Dr David Clarke, Energy Technologies Institute, Westminster Energy Forum, March 2009

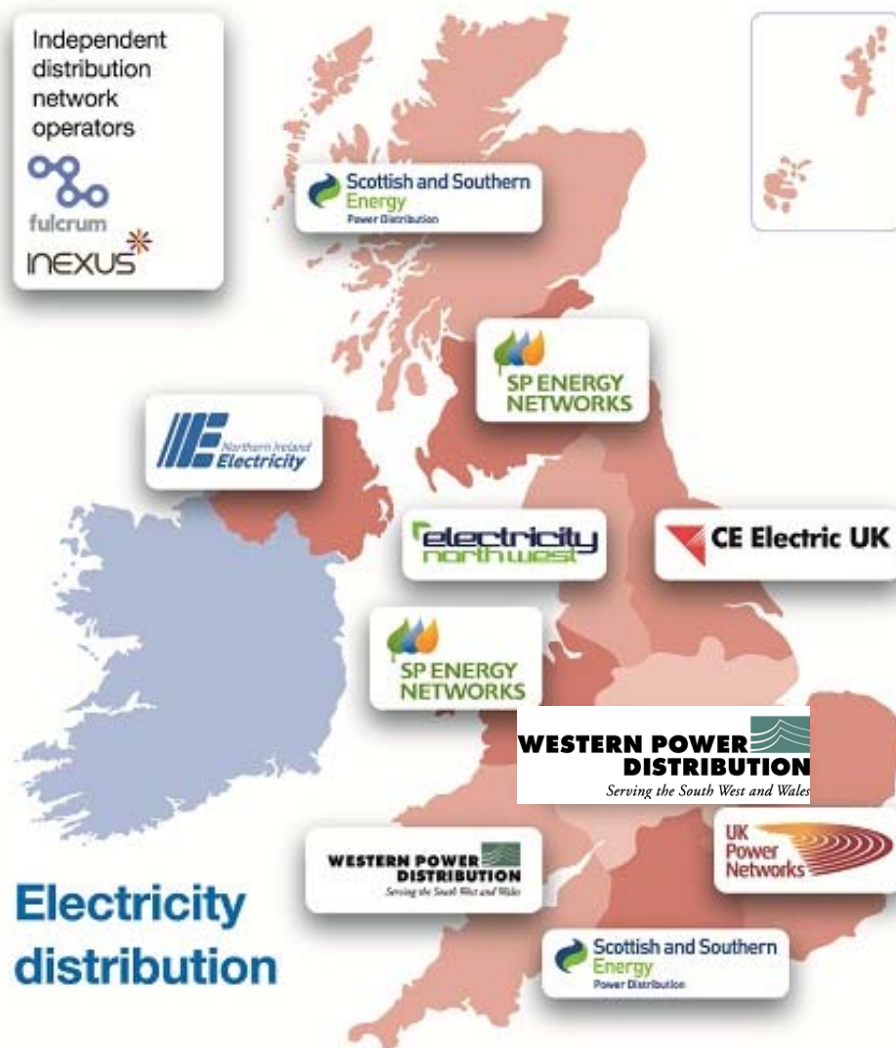


- Britain increasingly reliant on imported primary fuels
- Global demand growing for finite resource
- Sustained upward pressure on energy costs

THE SPLIT BETWEEN DNOs AND ELECTRICITY SUPPLIERS

Main DNOs

- CE Electric
- Electricity Northwest
- Northern Ireland Electricity
- Scottish Power
- Scottish and Southern Energy
- UK Power Networks
- Western Power Distribution

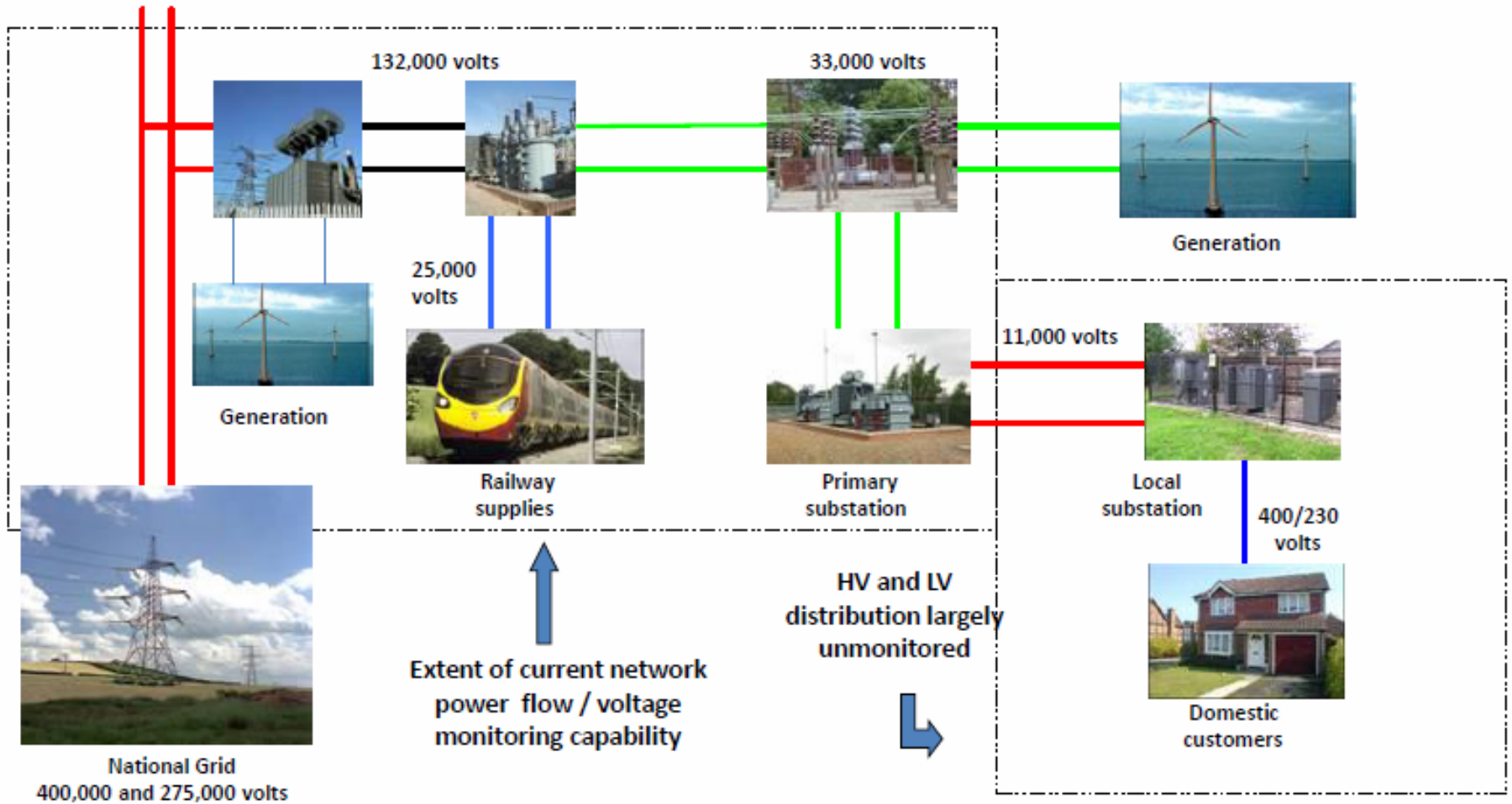


The 'big 6:'

- British Gas
- EDF
- E.ON
- npower
- Scottish Power
- SSSE

Source: National Grid

UK TRANSMISSION AND DISTRIBUTION NETWORKS



Source ENA

EXAMPLE DISTRIBUTION NETWORK ISSUES

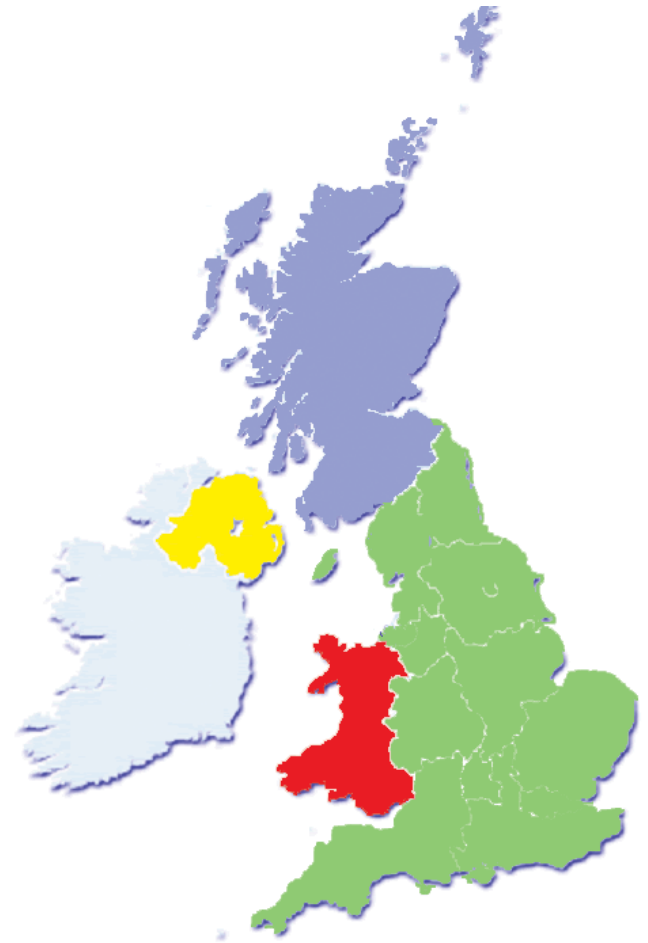


AUTOMATION IN THE UK SMART GRID LANDSCAPE



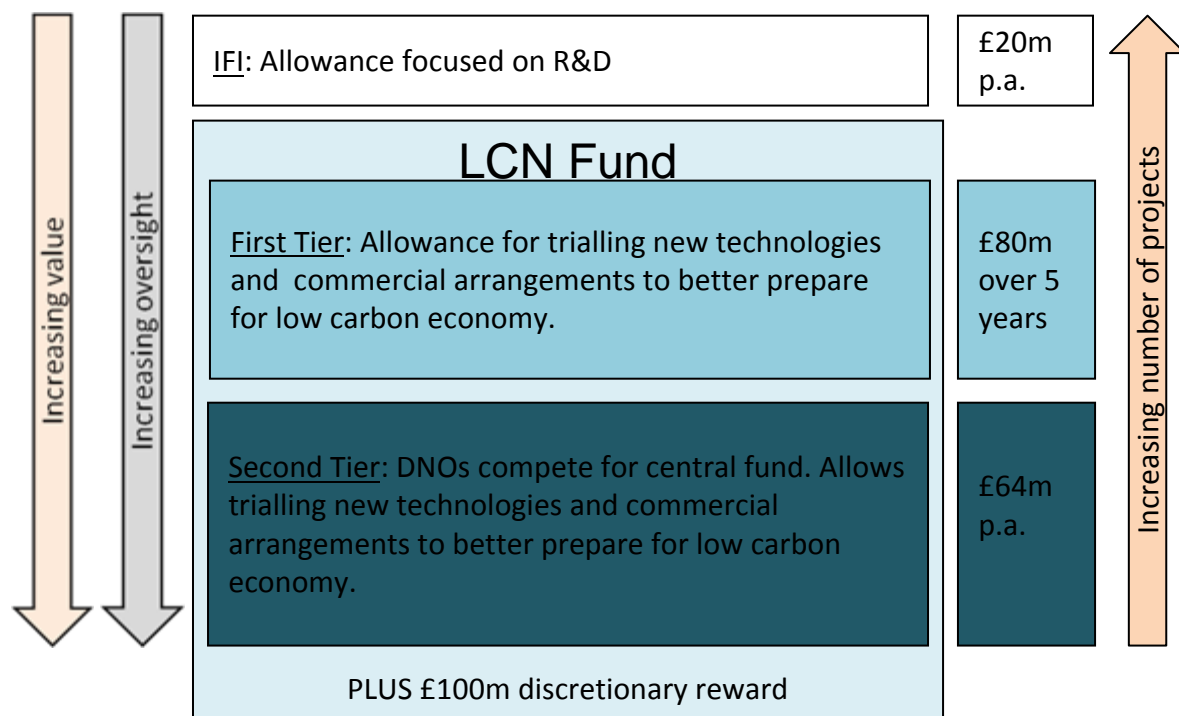
A SNAPSHOT: UK SMART GRID LANDSCAPE

- Low Carbon Networks Fund
- RIIO
- Electricity Market Reform
- Smart Meter Rollout
- Plugged in Places Scheme
- Technology and Strategy Board/
Energy Technologies Institute



LOW CARBON NETWORKS FUND

The LCN Fund comprises £500m over the five year price control period until 2015



- Expect integrated trials, working with third parties
- DNO funding (at least 10%) to ensure commitment
- Recognition of innovation risk
- Dissemination of findings critical including regulatory or legal issues
- Provide counterweight to focus on cost reductions from incentive regulation but not panacea

Source: OFGEM

LOW CARBON NETWORKS FUND PROJECTS 2010 and 2011

ofgem Promoting choice and value for all gas and electricity customers

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ENERGY BEST DEAL

Online money saving advice launched

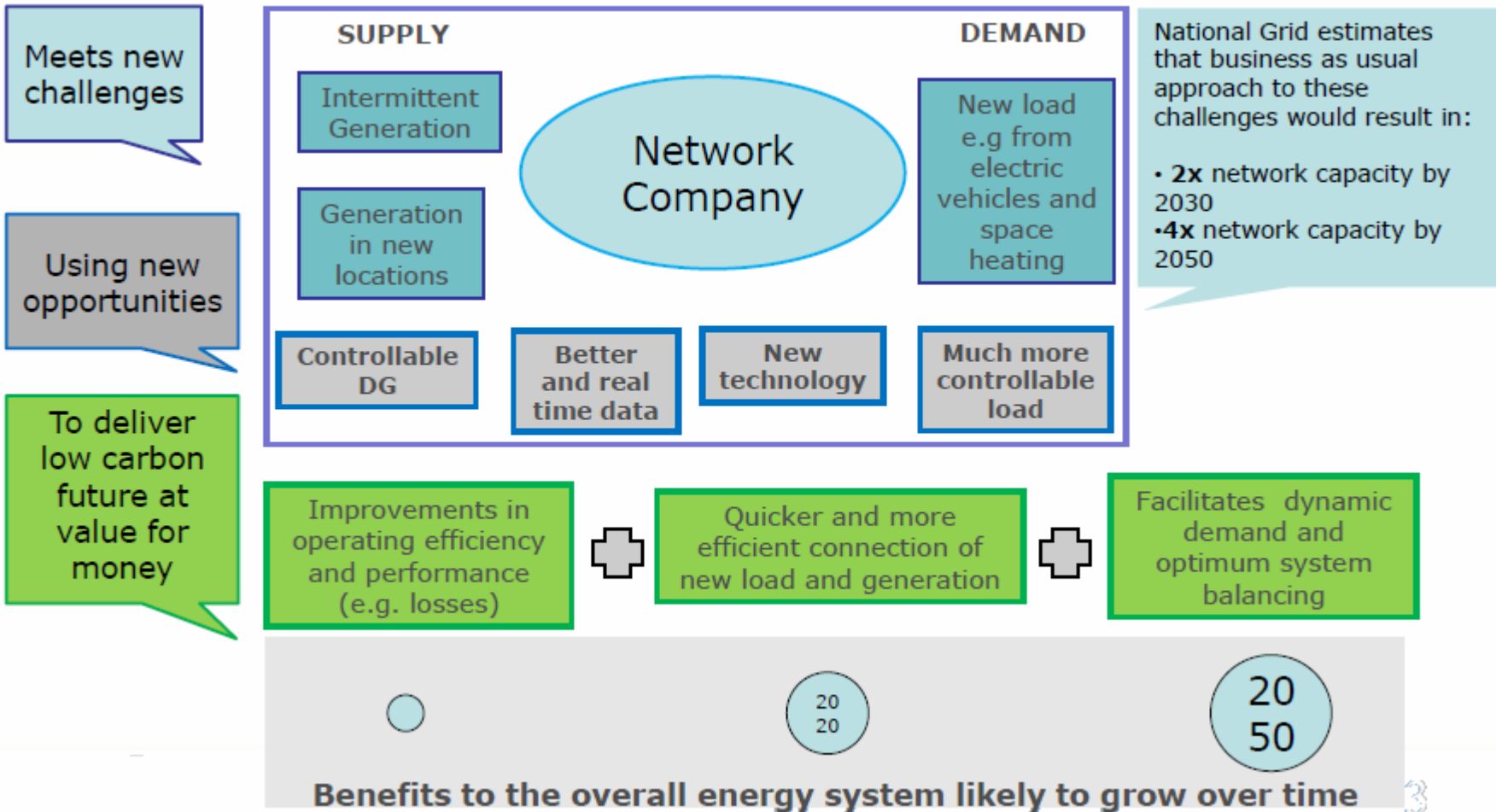
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RIIO FUNDING

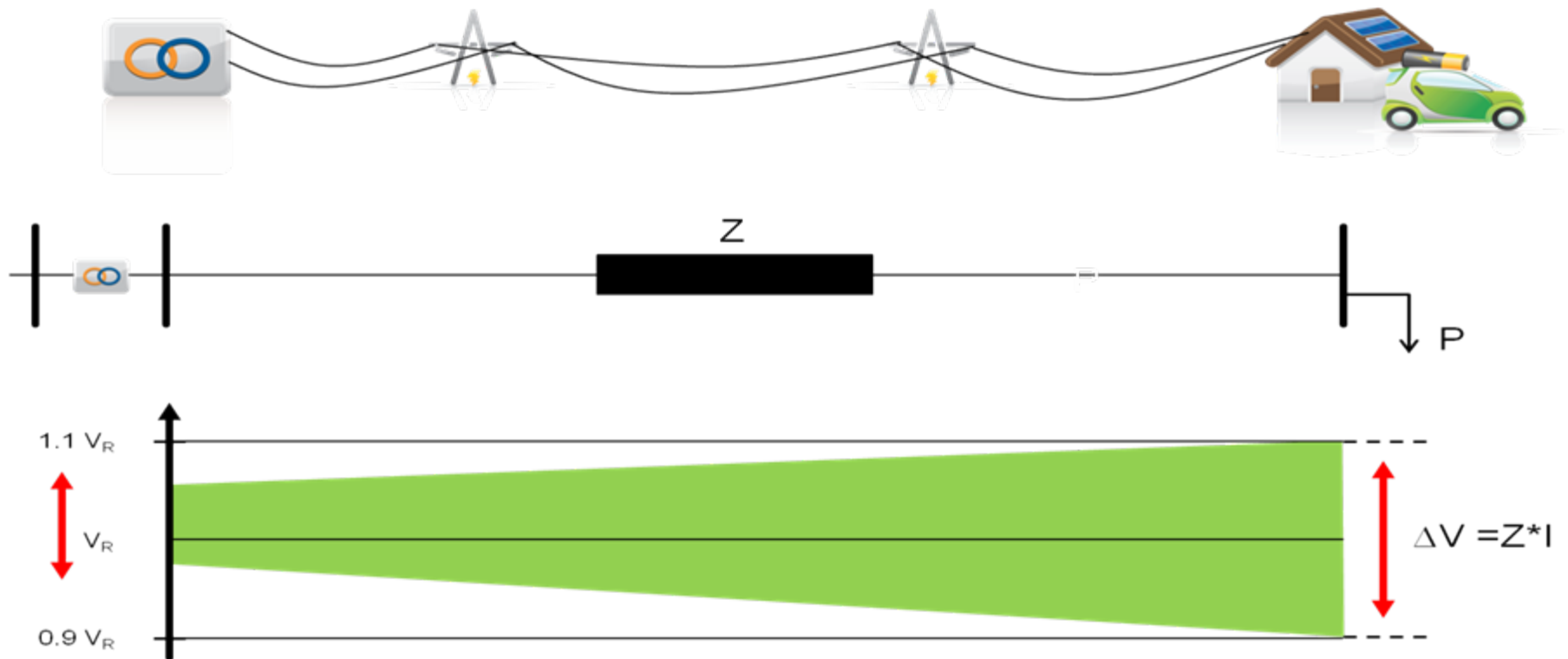
There is a shared future network vision



Source OFGEM

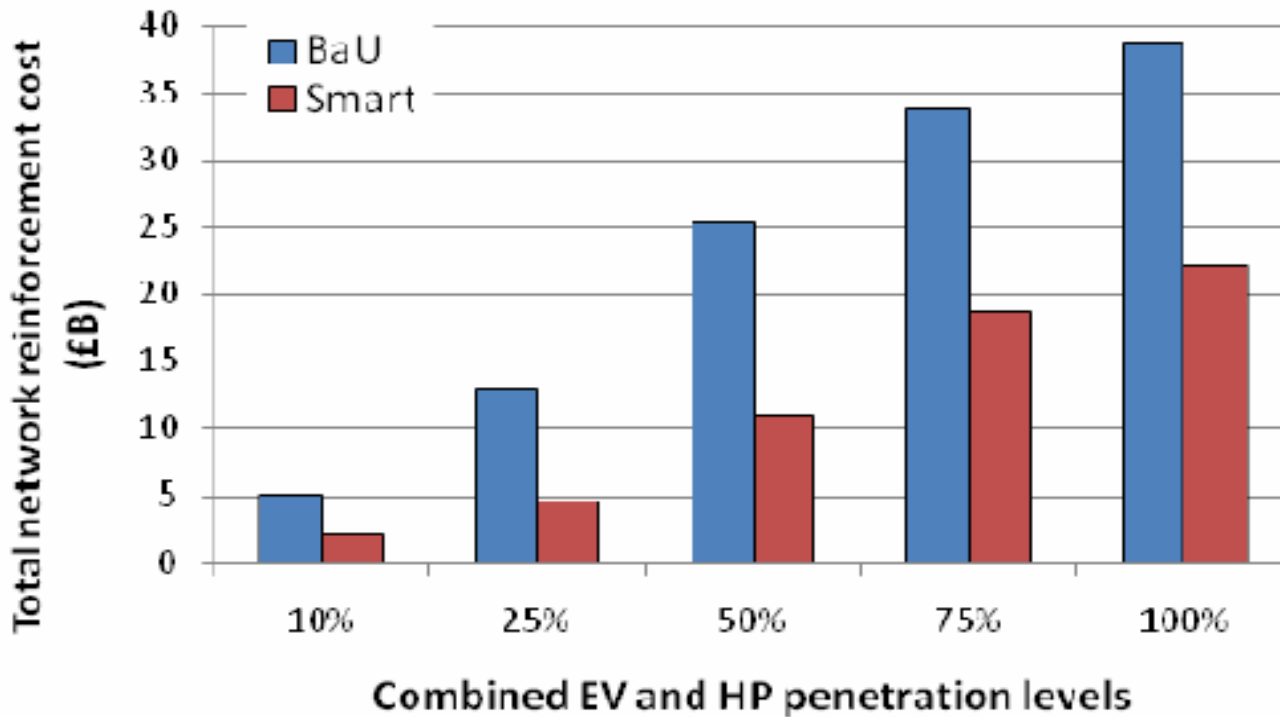
POTENTIAL VOLTAGE RISE ON LOW VOLTAGE NETWORKS

More active and granular voltage control



Source: Power Plus Communications

ESTIMATED TOTAL NETWORK REINFORCEMENT COSTS



Source ENA

ELECTRICITY MARKET REFORM

- With electricity consumption set to double and with legally binding CO2 targets in place, the govt released an EMR white paper in July 2011
- It sets out key measures to:
 - attract investment
 - reduce the impact on consumer bills
 - create a secure mix of electricity sources
- Key measures include:
 - Carbon price floor
 - FITS
 - A capacity mechanism



SMART METER ROLLOUT

- Nationwide meter rollout to take place from 2014 to 2019, 53 million meters
- Costing an estimated £11 billion
- The creation of a centralised Data and Communications Company (DCC)
- Major commercial opportunities exist for technology companies interested in providing services to DCC



PLUGGED IN PLACES SCHEME

- £30 million of match-funding to businesses and public sector partners to support the installation of EV charging infrastructure.
- Operating in 8 areas



TECHNOLOGY STRATEGY BOARD/ENERGY TECHNOLOGIES INSTITUTE

TSB

- The TSB, the UK's national innovation agency, is currently considering establishing a technology innovation centre for smart grids.
- TIC's intending to stimulate innovation, accelerate growth and anchor high value activity in the UK

ETI

- The ETI is a unique partnership between international industrial companies with a strong focus on energy and the UK government.
- The ETI is dedicated to sharing expertise and resources to speed up the development and demonstration of energy technologies and shorten the lead times to market.
- Projects being funded in: wind, marine, distributed energy, transport, and carbon capture and storage.



BUT WHAT ABOUT THE CONSUMER?

- More than half (52%) of consumers believe renewable energy is at the heart of a sustainable future
- 7 out of 8 people haven't received information on smart grids
 - Yet, more than 1 in 3 (35%) anticipate it will help them manage energy consumption
 - And almost 1 in 5 (19%) believe being connected to a smart grid will help them to lower energy consumption
- But there's contra-indications that tell us we need to engage people
 - 1 in 6 (17%) of respondents said they wouldn't use low carbon technologies connected to a smart grid
 - And the percentage grows in the over 55s
 - 34% always opt out of allowing use of their data

Source: Logica Eco Environment and consumer attitudes surveys



CONCLUSIONS

Increased automation of the grid will allow;

- “Smart” solutions to significantly reduce cost of grid upgrades
- Optimal allocation of investment on a grid equipped with measurement and communication devices
- DNOs and Regulators to work more effectively together
- Customers can benefit from changes

And

- Smart grid is of fundamental importance to the British economy



THE SHAMELESS PLUG:

www.smartgridgb.org



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Latest News

SmartGrid GB launched to promote smart grid for UK

SmartGrid Great Britain was launched on 23 June by the Minister of State for Energy and Climate Change, Charles Hendry MP, at the Royal Academy of Engineering, London.

A panel of experts from across the energy ecosystem welcomed our initiative which will act as a national champion to promote the development and delivery of smart grid in Great Britain.

Open the SmartGrid GB Prospectus for an overview of SmartGrid GB and please have a look around our website.

More information can also be found in the Press Release issued on the launch of SmartGrid GB.

[Read More](#)



What are people saying about SmartGrid GB?

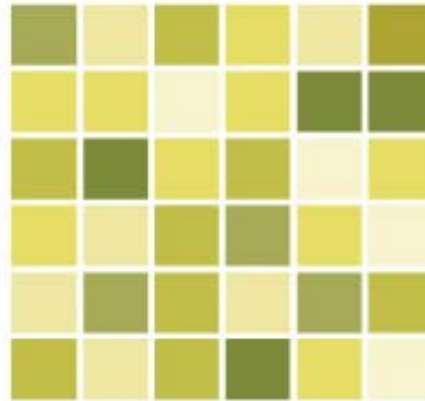
'SmartGrid GB is a welcome and overdue initiative that will bring a greatly needed, multi stakeholder perspective on this major area of future energy policy.'

Charles Hendry MP, Minister of State for Energy and Climate Change

'The DECC/Ofgem Smart Grid Forum is looking forward to working with SmartGrid GB and will regularly call upon it to understand the perspectives of its members.'

Rachel Fletcher, Partner, Distribution, Ofgem

'I am delighted to see Great Britain take another leadership position by



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To find out more visit
www.smartgridgb.org

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