

Is energy a key enabler for the economic resilience of UK cities?

The role of cities in the UK Energy Agenda –
Their importance as facilitators, co-ordinators
and possible Implications

Key Recommendations



- **Demonstrate economic benefits:**
 - Further research to identify economic study to clarify the value that could be created and for all groups, from community groups, to business and local authorities.
- **Create a Cities and Energy Unit in DECC:**
 - To clarify Local authorities role in the co-ordination and effective development of the UK energy system.
- **Develop Resources and Toolkit resources for cities:**
 - Decision making frameworks, where to go for funding, advice and best approaches and skills needed to deliver effective energy initiatives.
- **Integration with national infrastructure planning:**
 - Ensure that there is an integration of city centric energy plans and climate strategies into national infrastructure and planning frameworks.
- **Create City Roadmaps:**
 - Allow cities to better understand what options that they have.

Context



Economic

- The UK is fiscally one of the most centrally driven countries in the world. Local authorities 1.7% tax raising powers, 95% revenues - central grants.
- Decentralising government control of budgets could have substantial economic benefits on productivity, equity and living standards.
- UK cities recognised infrastructure economic resilience role.

Technological

- Decentralised energy technologies have reduced in price substantially and are being added to the UK energy system at a rate of 2GW pa.
- Benefits of the decentralised energy system are uncertain.

Policy

- Central government policies around energy are placing greater need for involvement of local authorities.
- The ability to take on more fiscal responsibility and engage in the utility sector is happening when local authorities have had to manage 40% cuts.

Context 1



Economic

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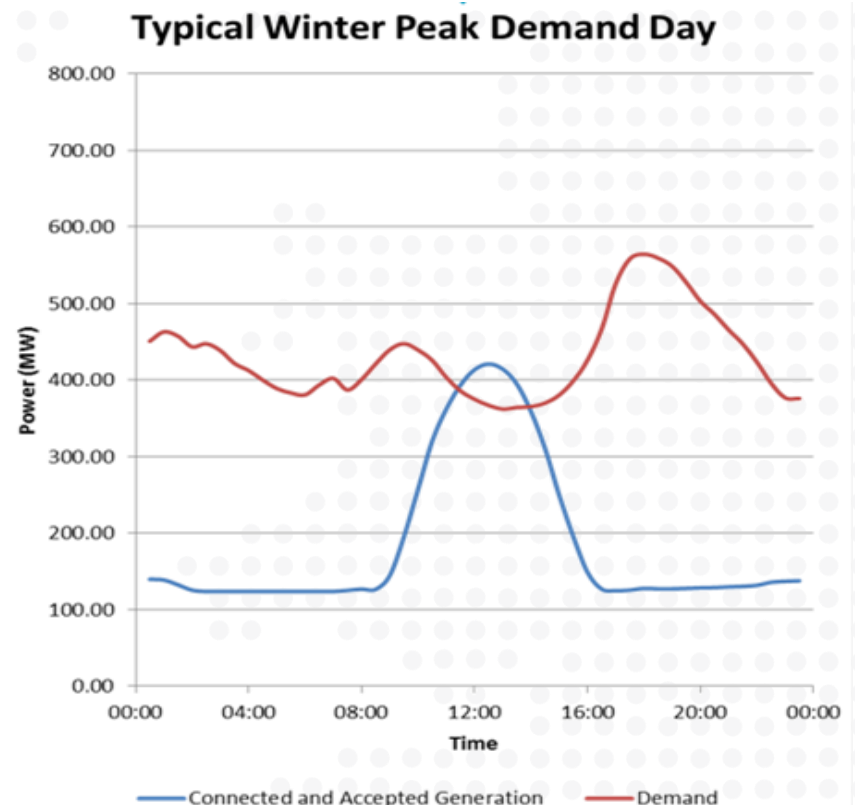
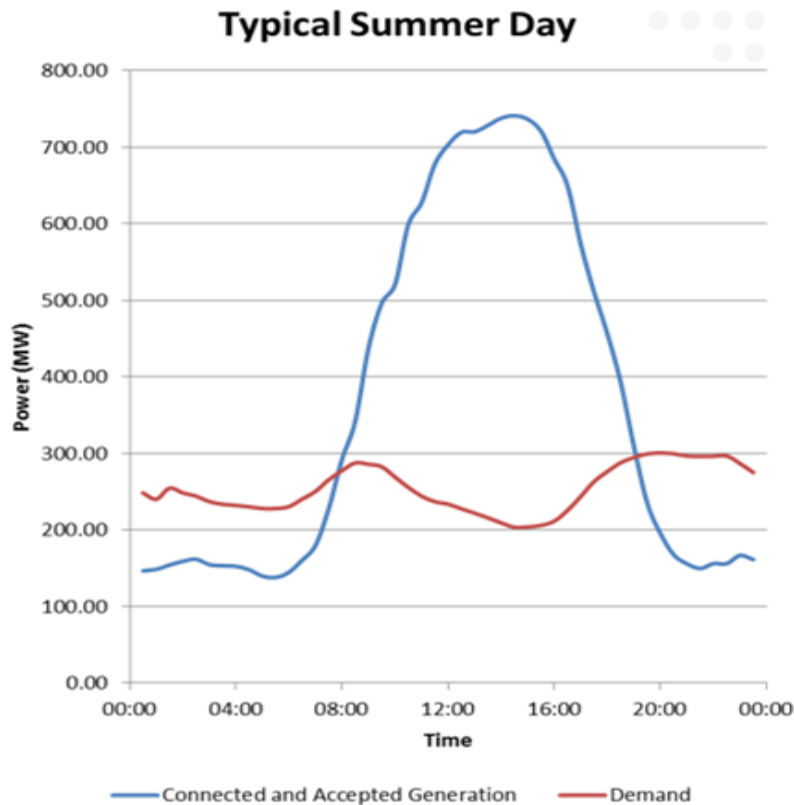
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Context 2



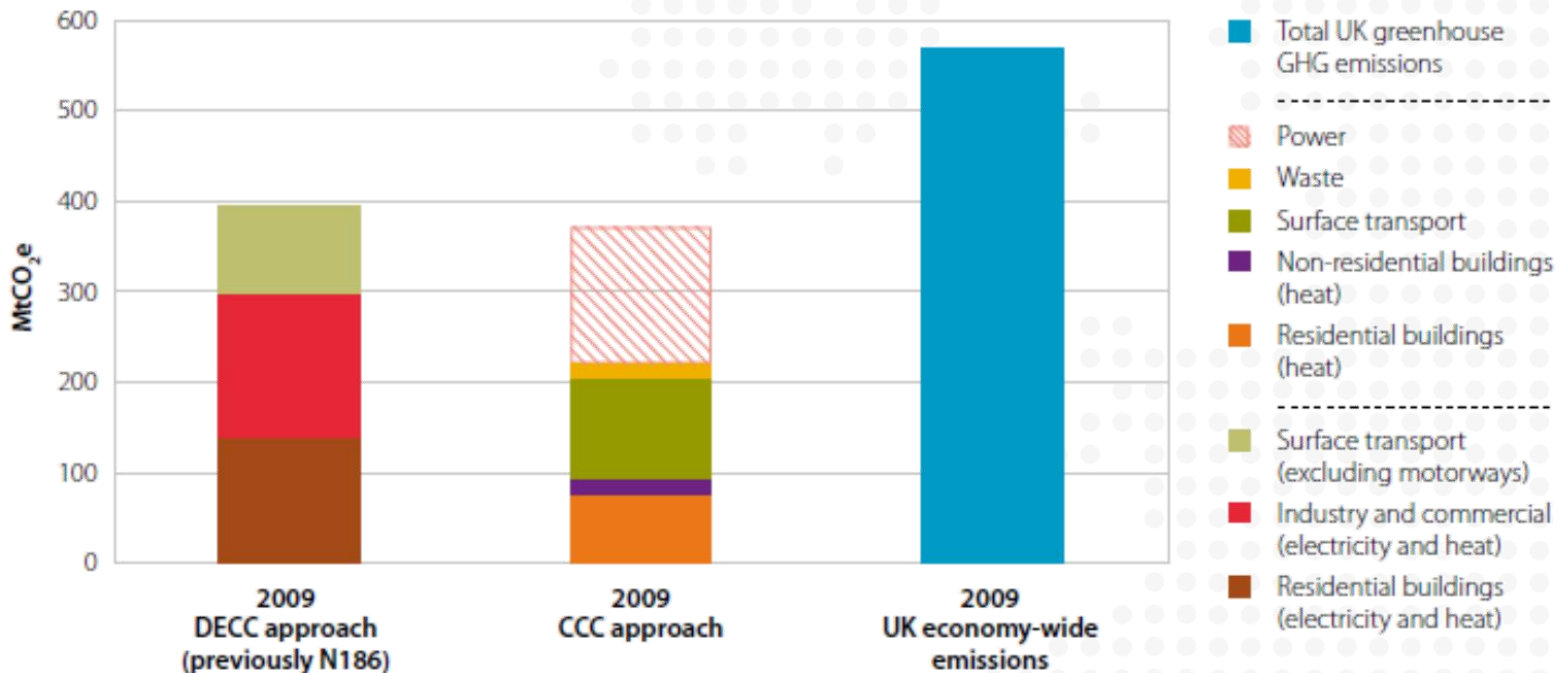
- Decentralised energy capacity on the local networks is already having an impact on UK energy system management.
 - Cornwall, 2010



Context 3



- Role of local authorities in management of UK emissions is substantial.



Source: CCC, 2012

- Role of local authorities in the co-ordination and enabling of UK energy development in a more geographically diverse system.
 - under studied; and
 - not well recognised in energy policy development.

Aim



.....understanding of the gap between the energy aspirations of UK cities and the regulatory/policy frameworks, processes and factors which are needed to realise those aspirations.

To do this the project sought to identify:

- What could wide spread decentralised energy look like in a city and how is this delivered?
- What could the benefits that can be realised if it is successful and what dis-benefits should be avoided?
- What could the role for cities and local authorities be in delivering this new infrastructure?
- And, the operational, regulatory, energy market and policy implications of greater decentralised energy in the context of the UK's decarbonisation targets to 2050.

Key Findings: Summary



Decentralised energy has the opportunity to deliver economic and social benefits to cities:

- Economic Resilience, regional regeneration, social and wider benefits.
- Decarbonising Energy.

But there are gaps in knowledge, policy and regulation that need to be filled:

- Policy and regulatory needs
- The role of cities & local authorities as an enabler for decentralised energy - as well as potential producer.

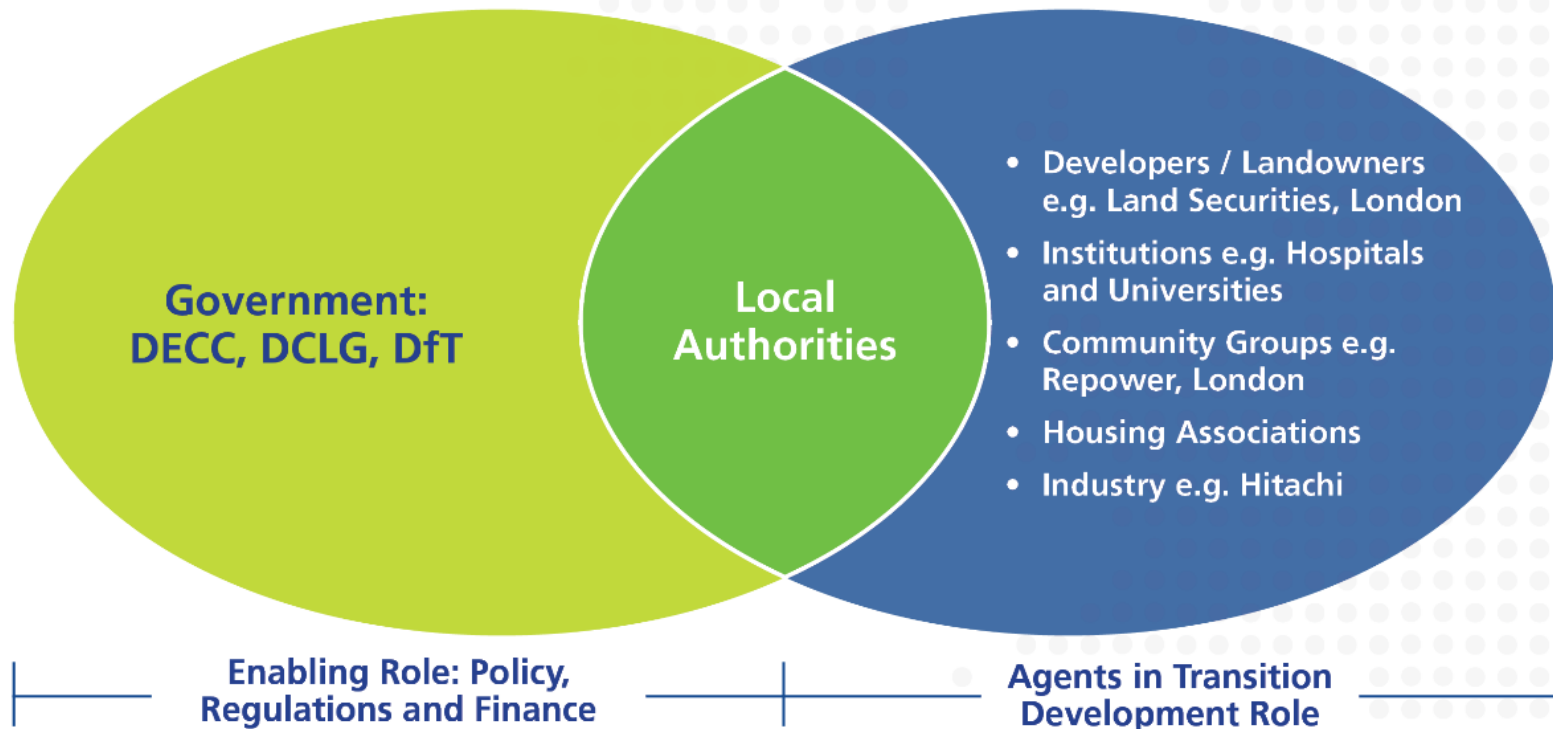
Key Finding 2: Decarbonising Energy 1



Greater involvement of UK cities in the provision of energy services could bring about significant changes to the way that the UK generates electricity, decarbonises heat, manages the demand side, provide solutions such as area wide energy efficiency programmes, the roll out of smart meters, and involvement in the demand side response market.

- Distributed generation now makes up 18% UK energy generation capacity;
- Increasing at a rate of 2 GW pa;
- District heating - between 14 to 43% are economically viable in cities; and

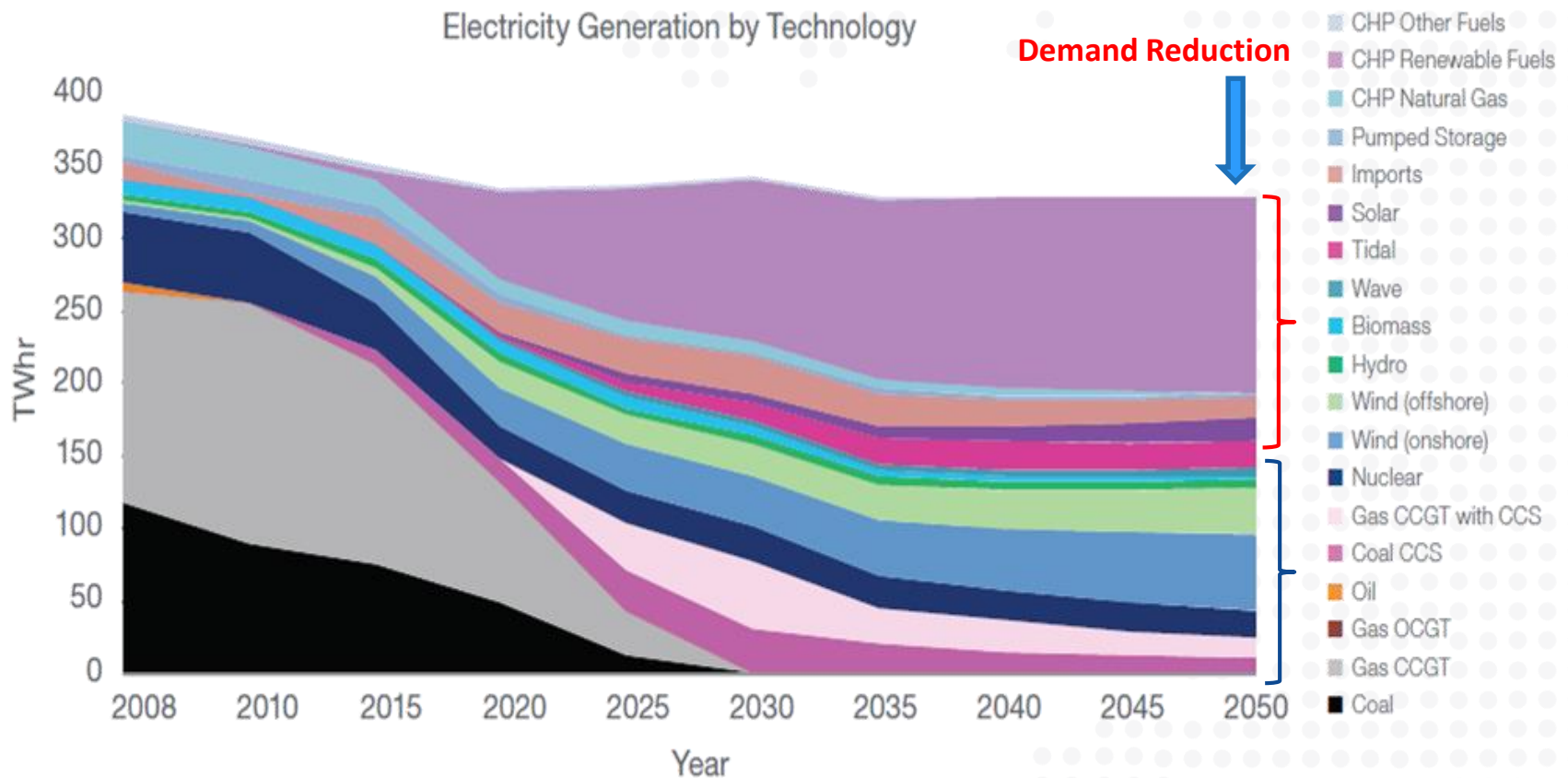
Local authorities have a role in facilitation and co-ordination



Key Finding 2: Decarbonising Energy 2



- Modelling scenarios suggest the distribution energy system can meet 50% of final electricity demand.



Possible Implications 1

- **Decentralisation can unlock a number of potential benefits**
 - Demand Side Response is easier.
 - Energy efficiency is easier.
 - Accountability moves closer to consumers - are Local Authorities working for consumers?
 - Infrastructure development is easier.
 - Reduced need to invest in Transmission and Distribution assets.
- **Need for a new energy system paradigm**
 - Centralised business model under threat.
 - Institutional architecture needs to change.
 - More actors and divergence of business models - more complex.

Possible Implications 2



- **Addresses non energy issues**
 - Interdependencies and social equity
 - External benefits and costs are not internalised
- **Access to new investment finance which could be at lower risk**
- **Top down targets need integrating with lower level strategy**
- **Need for a clear evidence base as to value and benefits of decentralised energy**

Key Recommendations



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Summary and Next Steps



Summary

- Distributed energy systems will continue to develop as part of the UK energy landscape.
- Local authorities have a key role in the realisation of an effective UK distributed energy system, demand side reduction and demand response.
- The co-ordinating and enabling role that local authorities have in utility sector development should be recognised by central government.
- The decentralisation of the appropriate powers to local authorities will be vital to ensure that the economic, social and environmental benefits of doing so are not missed.

Next steps in the development of the report

- Stakeholder agreement as to the need for the recommendations to be implemented.
- Development of a roadmap - role of local authorities in the decentralised centric energy system to be identified.

Case Studies



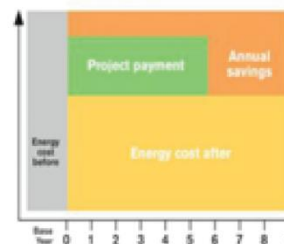
Aberdeen City Council:
District Heating and Hydrogen Economy



Bristol City Council:
Maximum impact of city-wide carbon reduction ambition



Cornwall Council:
Making most of location and opportunity for carbon reduction & renewable energy provision



Peterborough City Council:
Capital asset refurbishment to realise energy efficiency opportunities



Islington Council:
Bunhill Heat and Power