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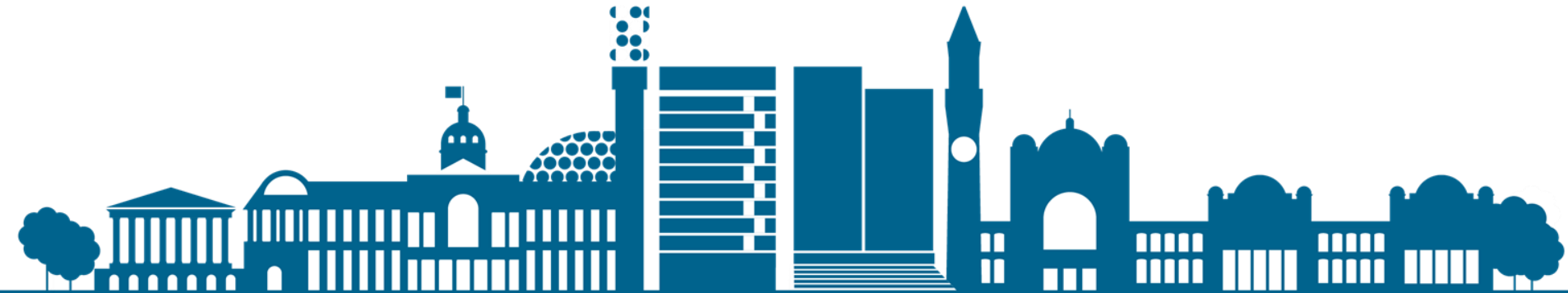


Transforming Birmingham –
a city system approach

Towards the Development of an Energy City Systems Conceptual Framework

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Overview

- Background
- Aims of Transforming Birmingham
- Workshop
- Conceptual Model Framework
- Summary
- Future Plans
- Questions





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Background

- Transforming Birmingham – a city system approach scoping study funded jointly by the Energy Systems Catapult (ESC) and the Engineering and Physical Sciences Research Council (EPSRC)
- Transformation: change in physical form and systems
- Transition is seen as a more gradual change





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Aims

- To bring together all the energy system modelling approaches across the UK to be critically assessed as to their suitability for the inclusion of the built environment, waste and transport systems within an urban environment.
- To develop a much larger study that will be able to build on this knowledge.





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Workshop

- Approximately 20 people from academia, energy agencies, business and non-governmental organizations participated.
- Divided into 3 groups
- Presented a conceptual model framework to aid discussion
- Asked a number of questions within three thematic sessions
- Discussed the results across all groups





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Workshop Themes

- How energy use is represented within different sectors
- Potential integration across different sectors
- Future research directions in whole energy system modelling





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Workshop Outcomes

Considerable uncertainty regarding the emergence of next generation infrastructure which takes two forms:

- i) Limited appreciation of system interdependencies
- ii) Complexity of the existing systems along with the risks related to any major transformational alterations





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Summary

- The model framework is designed to assess different modelling approaches and to identify cross-sectorial stakeholder requirements.
- It will engender system-wide purpose, vision and strategy.
- This process will ultimately lead to interfaces with existing models or a whole new energy systems infrastructure.
- It will also have the potential to facilitate a transformative outcome on future city and regional infrastructures.





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Future research

- Linkages between different sectors are poorly understood. These linkages and interactions need to be investigated in detail.
- Critical review of the existing literature on different sector models informed from the workshop outcomes and with further meetings
- Potential Development of a new model framework



Questions?





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Further Information

Email: s.e.lee@bham.ac.uk

- Transforming Birmingham
<https://tinyurl.com/yaxvzkam>
- Birmingham Energy Institute
<https://tinyurl.com/out653t>
- Liveable Cities Program
www.liveablecities.org.uk
- City REDI Programme
<https://tinyurl.com/ybtyo4ph>

