Loughborough University

WARWICK

Ulster University

London South Bank University

Research Challenge 1

To develop a spatial and temporal simulation tool that can be used to simulate a smart thermal network interacting with storage and thermal transformation technologies in a dynamic environment.

Research Councils UK Energy For a Low Carbon Future

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Heat mapping and analysis

Database of low/zero carbon heat sources and key characteristics.

Method for using annual heat demand figures to produce representative transient demand figures.

Validated method of generating realistic transient heat demand.

Modelling methodology

Software tools that allow options for low carbon district heating to be evaluated.

Comprehensive Working Heat Network Models.

Application to case study regions

Detailed analysis for 3 case studies.

Minimum criteria for low carbon district heating development.

Enhanced software tool.

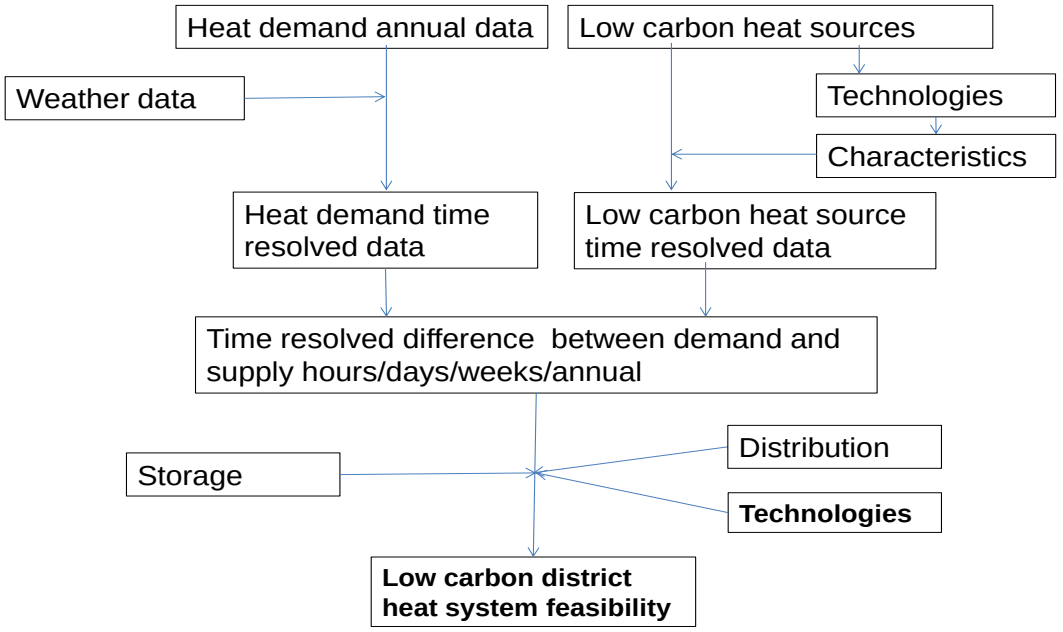
Successful application of the developed tools to three case studies.

Generic application

Refined criteria for low carbon district heating.

Identification of most suitable regions in the UK.

Selection of sites suitable for low/zero carbon district heating systems.



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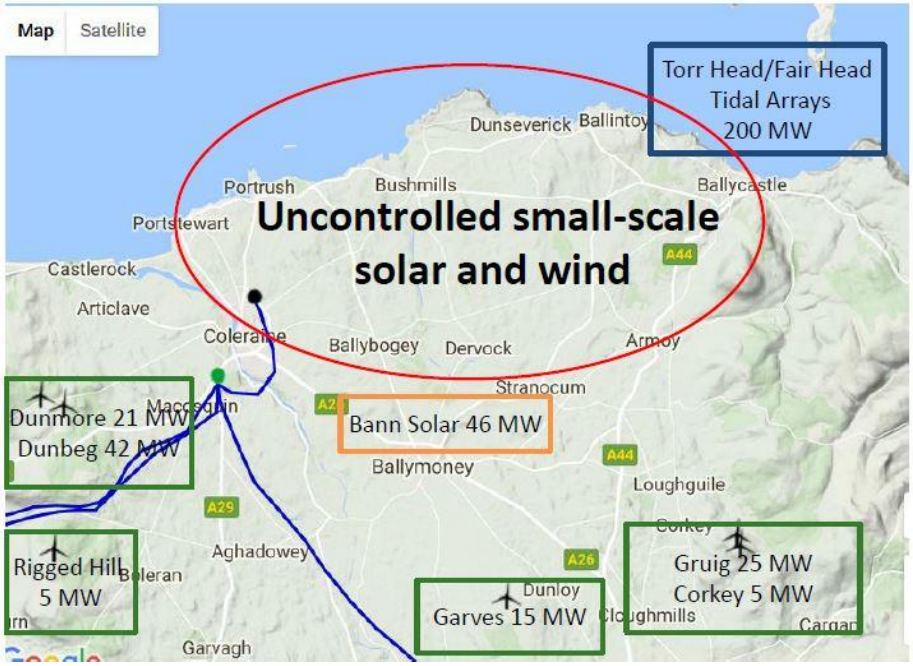
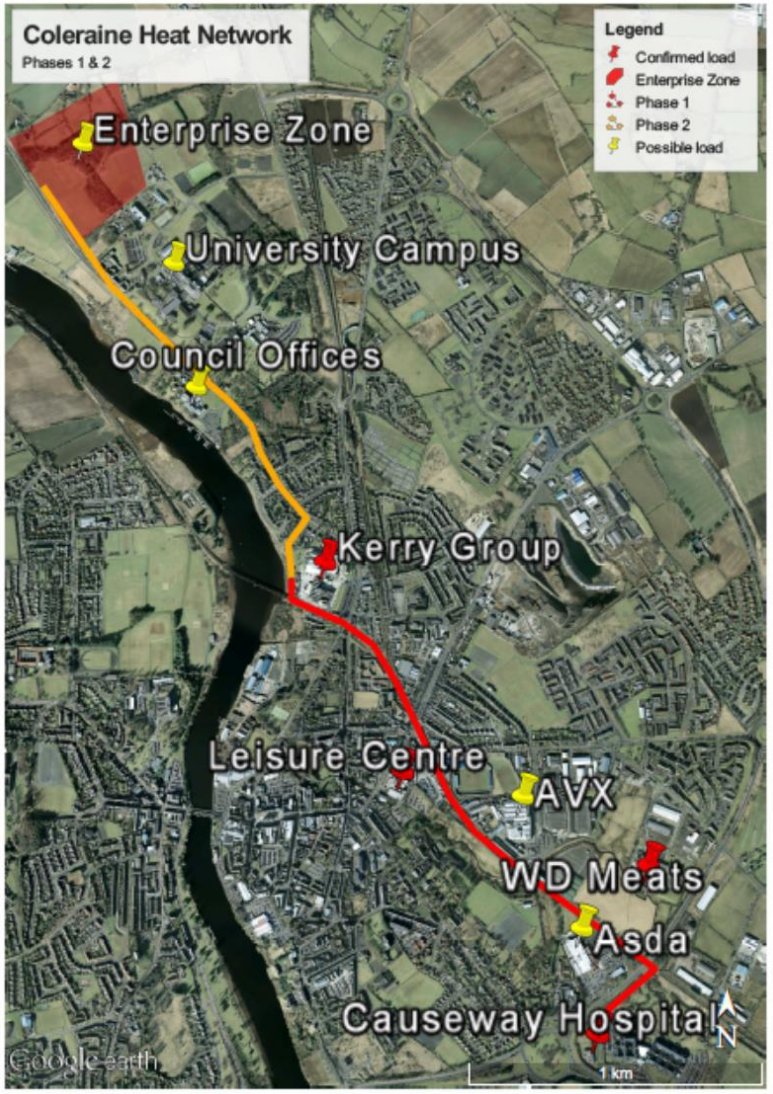
Coleraine Phase 1
40 GWh heat





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