

# Modelling and Optimisation of Integrated Urban Energy Systems for both Heating and Power

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## Abstract

To achieve the target of substantially decarbonise in UK, this project aims at looking through the issues of decarbonisation in energy consumption and developing a smarter and more integrated energy system for both heating and electricity in urban areas considering energy efficiency improvement, CO2 emission reduction and renewable energy integration.

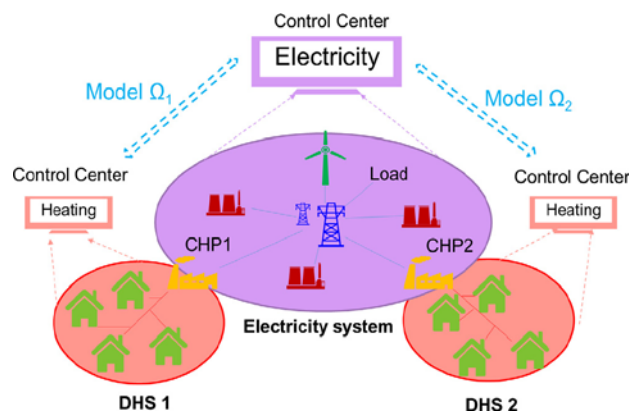


Figure 1: Future dispatch framework [1]

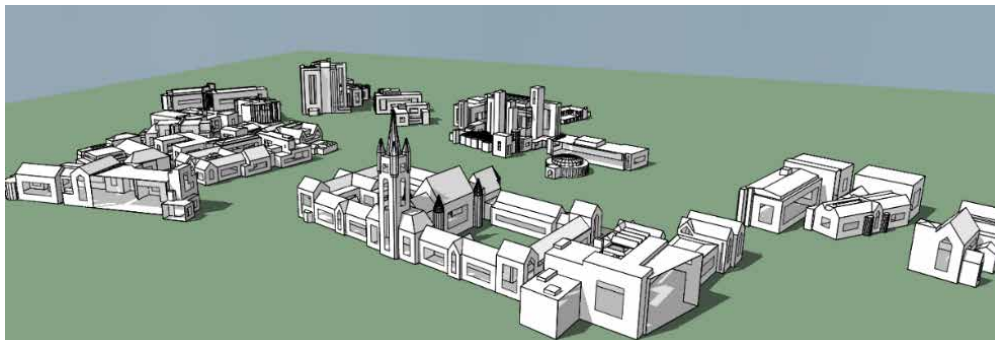


Figure 2: Building model of University of Glasgow – a case study

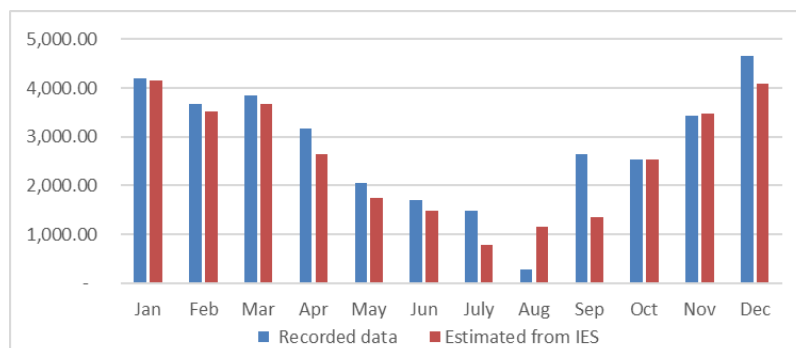


Figure 3: Estimated energy consumption based on building model

## Reference

- [1] Z. Pan, Q. Guo, and H. Sun, "Feasible region method based integrated heat and electricity dispatch considering building thermal inertia," *Applied Energy*, vol. 192, pp. 395-407, 2017.