# A-9: Grid Flexibility Scorecard for Buildings

**Demand Response** **Grid Interaction** **Machine Learning** **Stock-Level Analysis**

## Summary

Researchers will develop a toolchain to quickly understand building flexibility in providing load-shifting to the grid. This will sit alongside a building energy score in identifying and recommending high-value building improvements. It will account for the control processes that could leverage this flexibility in forthcoming smart grids.

### Partners

Edo, a spin-off company from two major industry leaders, is a software start-up providing demand response software based on cutting-edge machine learning techniques.

### Researchers

## METHODS AND DATA USED

Grid flexibility scorecards will be developed from a combination of surrogate modelling and stock-level analysis. Edo will deply and test approached developed at the South Landing Eco-District using data from the operation of the district heating, cooling and electricity systems.

## Final Outcomes

The tool will target utilities, allowing them to set incentives that promote energy flexibility as a cost-effective alternative to grid upgrades or battery storage as they transition to less dispatch-able generators. The methodology will also account for the ways in which building controls can be used to provide thermal storage. It will also integrate analysis at the archetype scale (for example, in helping utilities in targeting demand response programs) and in the energy auditing realm (providing a flexibility score as part of this service).