

Review of Barriers to Uptake of Demand Side Response in Medium Sized Businesses

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Overview

Affordability and security of energy supplies are becoming major concerns globally as countries face issues of increasing demand for energy, pressures to use lower carbon energy and often a growing dependence on fuel imports. One of the solutions being used to help overcome these issues is Demand Side Response (DSR). DSR usage has traditionally focused on large industrial and commercial customers due to the installation costs required to implement DSR solutions combined with the high amount of demand shifting achievable for these types of organisations. This has meant that medium sized businesses have not been targeted for or actively pursued DSR: the marginal investment returns from smaller demand shifting potential do not readily justify the anticipated installation and running costs. This paper analyses what the current barriers are to DSR uptake and how these impact medium sized businesses from the perspectives of Policy, Market and Implementation, informed by current literature and the experience of a UK-based Demand Response Aggregator.

Methods

Literature review and the experiences of a UK-based Demand Response Aggregator.

Results

The results show many barriers for DSR uptake for medium sized businesses persist, including:

- Unclear government policies discouraging investments in DSR;
- DSR markets favouring generator-based services and restricting the ‘Turndown’ solutions that would be used by medium sized businesses;
- The costliness of current implementation requirements for medium sized businesses, as these organisations are less likely to already have the necessary controls systems DSR solutions require.

Conclusions

Based on the research informing this paper, in conclusion, the DSR market in the UK currently favours large businesses with backup generator-based DSR. While medium sized businesses with ‘Turndown’ only DSR can participate the costs of entry are high and on-going conditions of usage can be hard to meet. Further government support, improved markets and lowering of implementation costs is essential, if DSR is to become more widely accepted by UK businesses. Further research on each of these areas should be undertaken, if the UK market is to help identify approaches that contribute to increasing the uptake of DSR.