

Energy:2030 Chart of the Week

26

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“Accessing daily pricing differentials provides a much more stable revenue stream than simple arbitrage of volatile wholesale prices for consumers”

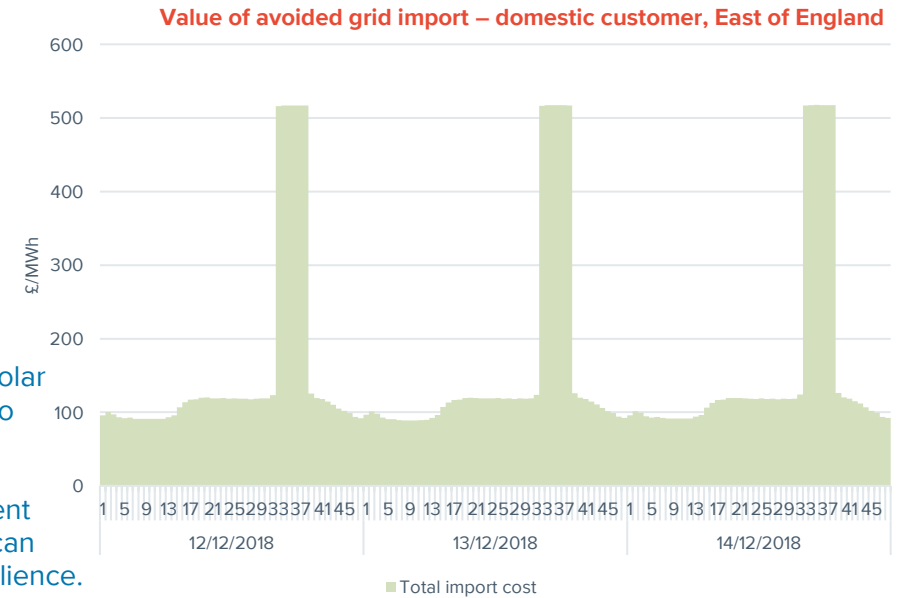
Pixie Energy demonstrates value of flexibility

In 2018, BEIS provided funding to support a range of Flexibility Market Feasibility Studies. Pixie Energy, as part of a consortium including Ipswich Borough Council and Suffolk County Council, led a study based on Ipswich. Here, we outline some of the project’s findings.

The Ipswich Local Supply Community Assessment Project (‘the Project’) set out to analyse mechanisms to exploit electricity flexibility at the household level. It modelled local demand and tested the impact of adding solar and storage behind the consumer’s meter. It also explored how emerging demand-side response techniques and programmed market initiatives, including the introduction of half hourly settlement (HHS) combined with time-of-use retail pricing, can enhance flexibility and support local system resilience.

The chart shows the modelled costs incurred for supplying a MWh to a domestic customer in Ipswich over three weekdays in winter 2018. Incentives for deployment of generation and storage behind the meter are increasing, with daily pricing differentials of 10p/kWh. These could increase to over 40p/kWh in the winter peak periods. The differentials arise from network charges as much as volatile wholesale prices.

Accessing these differentials provides a much more stable revenue stream for consumers than simple – and unpredictable – arbitrage of volatile wholesale prices, although half-hourly export metering and settlement could provide these revenue opportunities if new markets allow domestic-level generators to access the real wholesale value of power. Under such conditions, modelling suggests that solar and/or storage assets could pay for themselves in 13 to 15 years using HHS and a smart tariff, without subsidy.



Source: Pixie Energy

As third-party charges continue to drive up retail electricity prices, local flexibility markets offer increasingly real benefits, but will depend on the decisions that consumers make behind the meter.

Furthermore, there are several key dependencies: the completion of the smart meter rollout (increasingly regarded as unlikely to meet its 2020 target), the timetable for market-wide half-hourly settlement, and Ofgem’s proposals for network charges, which suggest that some should be unavoidable (though perhaps not for domestic consumers).

Pixie Energy will be hosting a dissemination event to present the conclusions of the Ipswich Flexibility Study on 26 March. To request a place or find out more about the study, please email us at enquiries@pixie-energy.com.