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## **MP says fridges could help keep the lights on**

Ordinary electrical appliances, such as refrigerators, could be used to help stabilise the electricity grid and allow more renewable energy to be connected, the House of Commons was told yesterday.

The idea, known as ‘dynamic demand control’, was raised by Brian White MP, during a Standing Committee debate on the Energy Bill [1]. It would involve incorporating low-cost microcontrollers into millions of new appliances in order to smooth out fluctuations in electricity demand.

Certain appliances (such as domestic and industrial refrigerators, freezers or air conditioners) demand electricity only some of the time because they switch on and off in regular cycles. Under dynamic demand control, these cycles would be timed so that most power is consumed when there is excess power available on the grid (i.e. when people are using less electricity, or when extra energy is being produced, such as on a windy day).

Brian White, MP for North East Milton Keynes, said:

*“I am a passionate advocate for sustainable energy and heartily support innovations that could help transform our energy system. Dynamic demand control deserves serious consideration for its potential to add stability to the electricity grid and prepare it for large amounts of renewable electricity generation. The Government needs to look into this technology further, talk to the major players and come up with a strategy to overcome market barriers if the benefits do turn out to be as promising as they currently appear.”*

It is hoped that dynamic demand control could remove a potential barrier to the grid-connection of large amounts of variable energy sources such as wind power. This is because some of the short-term fluctuations inherent in wind-generated electricity would be smoothed out. During a particularly windy half-hour, for example, refrigerators would use more energy than normal, in effect storing it away in the form of lower temperatures for use when the wind is calmer.

Joe Short, Coordinator of Dynamic Demand, a not-for-profit group [2] being formed to promote the technology, said:

*“Renewable energy is sometimes criticised for providing a fluctuating supply of energy. Dynamic demand technology helps to address this problem. Millions of ‘intelligent’ fridges, freezers or air conditioners would act a bit like a gigantic battery, storing energy and making the grid more robust to sudden changes in supply or demand. This resilience to short-term imbalances could allow more renewable energy sources onto the grid, and could help reduce the risk of a power blackout, such as the one seen in North America last year.”*

Currently, short-term fluctuations in demand (created for example, by people switching kettles on and off) are smoothed out using dedicated power stations running at variable rate. This method of smoothing demand is expensive, costing the National Grid Company around £75

million each year. With the right market mechanism in place, dynamic demand control could provide a similar service at reduced cost.

## NOTES

[1] Brian White MP (Milton Keynes North East) raised dynamic demand control as a ‘probing’ amendment to the Energy Bill which was being debated by House of Commons Standing Committee B in the afternoon of June 17th. Probing amendments are used to raise awareness of issues and are not intended to become law.

[2] Dynamic Demand is currently seeking funding for a not-for-profit advocacy campaign to raise awareness of the potential of dynamic demand control amongst key organisations and policy makers. For more information about Dynamic Demand, and a general description of the technology, see [www.dynamicdemand.co.uk](http://www.dynamicdemand.co.uk)

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