

BEIS/Ofgem: Plan for a Smart, Flexible Energy System – A call for evidence

Response from the Energy Intensive Users Group

Introduction

The Energy Intensive Users Group (EIUG) represents the UK's energy intensive industries (EIs) including the manufacturers of steel, chemicals, paper, glass, cement, lime, ceramics, aluminium and industrial gases that compete in global markets and depend on secure, internationally competitive energy supplies to remain in business. These foundation industries employ 200,000 people directly, support 800,000 jobs including their supply chains, and make a £15bn pa contribution to UK GDP.

It is of utmost importance to our members that risks of energy supply shortages and other energy cost burdens are minimised, in order to maintain international competitiveness.

Enabling storage

EIUG commends BEIS and Ofgem for identifying the primary barriers to investment in electricity storage, including the need for an equitable regulatory and charging regime with respect to alternative options for providing flexibility. We would support consideration of a more technologically neutral flexibility licence model, which might have the potential to deliver increased flexibility needed to ensure security of supply at least cost to consumers at a time when the UK is becoming increasingly dependent on unreliable intermittent renewable power generation and electricity imports, coupled in the longer term with relatively inflexible baseload supplies from nuclear generation. EIUG does not have a strong preference as to whether a specific regulatory status for electricity storage is better achieved through the licensing process or primary legislation.

We agree that network operators could use storage to support their networks, but it is important that they do so through as competitive a process as possible to minimise costs and safeguard the interest of consumers.

We have no strong preference for whether or not network companies should own their own storage, so long as there is no distortive impact on the wider market. Ofgem may wish to consider whether storage owned by network companies should be ring-fenced or otherwise regulated to ensure there is no opportunity or incentive to exploit a privileged position to the detriment of overall market efficiency.

System value pricing

A number of EIs already provide flexibility through a variety of demand side measures and in some cases also through the operation of their own on-site power generation, generally through contracts with the System Operator, their supplier or an aggregator, to the extent that this is practical (although many EIs operate wholly or largely continuous processes which restricts their ability to offer a demand side response). To some extent therefore current system pricing arrangements already provide sufficient incentive for the direct engagement of industrial users in providing flexibility services, although no doubt the scale of this involvement could be increased to some extent. EIUG believes that UK energy and industrial policy should support growth of manufacturing rather than pricing these key export sectors out of existence.

It should also be recognised that many energy intensive industries operate continuous processes where provision of short term demand response is not a practical possibility regardless of system value pricing arrangements. This constraint needs to be recognised in BEIS' assessment of potential demand response from the industrial sector.

Smart distribution tariffs

EIUG is not aware of any specific evidence that distribution charges are currently acting as a barrier to the development of a more flexible system.

EIUG would question whether DUoS charges can effectively send both short term and long term signals at the same time. It might be expected that DUoS charges should be one of the more stable elements of electricity users' bills, but that has not always been the case. There have been extraordinarily sharp changes, particularly increases, in DUoS charges in certain specific instances during recent years, causing problems for EIs and their suppliers. It is hard to see how volatile changes in distribution charges is beneficial for consumers, or in terms of providing a meaningful signal for investment in distribution capacity (or 'smart' alternatives).

Other Government policies

EIUG has consistently urged the government to recognise the need for the external costs caused by reliance on intermittent and/or non-dispatchable power generation to be properly internalised. This will be essential if the very high cost of integrating intermittent renewables and relatively inflexible baseload nuclear to the scale implied by government targets is to be contained at reasonable cost to consumers. As BEIS is well aware from internal and external analysis, these costs are already considerable and set to carry on escalating for the foreseeable future (in the absence of policy reform).

The problem has arisen entirely as a result of the government's policy of subsidising renewable electricity production regardless of the time when it is produced. This has distorted the wholesale market and undermined the incentive to provide secure capacity, requiring the introduction of a capacity market. The considerable costs of this have been borne by consumers. It would be more efficient to move towards technologically neutral support for secure low carbon power generation, phasing out subsidies for insecure intermittent power generation altogether. In the meantime, internalising intermittency costs would give operators of insecure intermittent power generation an incentive to contract directly with providers of demand response and/or flexible generation – which would seem to be a logical objective of a 'smart' energy system.

Consumer engagement with Demand Side Response

Large non-domestic electricity users tend to find out about DSR services through their supplier, as a result of contact by third parties such as energy procurement consultants or aggregators, or in certain cases as a result of direct contact from the System Operator. Awareness of DSR is high amongst EIs, though not necessarily amongst business users generally, although this is starting to change. Engagement with large non-domestic consumers could potentially be encouraged by allowing lower thresholds for participation, removing their need to work through an aggregator.

EIUG is not aware of any additional barriers to DSR beyond those identified in the consultation document.

Consumer protection and cyber security

EIUs are already used to providing half hourly data on electricity consumption to suppliers and other parties, and indeed higher resolution data in certain instances (e.g. when providing premium DSR services such as frequency response). EIUG would be concerned if such data was leaked and misused, e.g. to reveal implied levels of industrial production to national or international competitors.

We would have significant concerns about how any future access to smart metering data could be achieved whilst adequately maintaining commercial confidentiality, especially if smart metering were to result in the attempt to pass control of operational plant to external parties (e.g. through a mandatory extension of smart appliances to industry). There are potential consequences (e.g. through loss of control of high temperature or hazardous processes) which could be very serious if strong levels of security and commercial confidentiality are not maintained.

EIUG is not aware of any specific evidence of current or likely potential smart technologies in the industrial sector that could compromise the energy system as a whole.