

NIC: National Infrastructure Assessment Call for Evidence

Response from the Energy Intensive Users Group

General Comments

The Energy Intensive Users Group (EIUG) represents the UK's energy intensive industries (EIIs) including manufacturers of steel, chemicals, fertilisers, paper, cement, lime, glass, ceramics, gypsum, glass, aluminium and industrial gases that compete in global markets and depend on access to 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.

Responses to Specific Questions

Cross-cutting issues:

4. What is the maximum potential for demand management, recognising behavioural constraints and rebound effects?

Note: "demand management" includes smart pricing, energy efficiency, water efficiency and leakage reduction. "Rebound effects" refer to the tendency for demand to increase when measures aimed at reducing or spreading demand also lead to lower prices or reduced congestion, undoing at least some of any demand reduction. For example, if smart meters reduce the cost of electricity in off-peak periods, this could lead to greater energy consumption overall, where a large number of individuals or firms take advantage of these lower prices by increasing their total usage.

EIIs depend on continuous access to secure baseload energy supplies to remain in business.

It is important to recognise constraints as well as opportunities for industrial demand management, especially for continuous processes, and for other processes that have limited opportunities for demand side management (DSR). Also, DSR is already comparatively widely employed in EIIs that operate flexible processes, so there may be limited scale for realistic expansion in the industrial sector.

DSR is more about smoothing the overall demand profile than demand reduction *per se* – i.e. it is not an alternative to baseload energy provision and all that it entails in terms of infrastructure maintenance and development.

7. What changes in funding policy could improve the efficiency with which infrastructure services are delivered?

Note: by "funding", the Commission means who pays for infrastructure services and how, e.g. user charges, general taxation etc.

It may be more efficient to deliver some elements of low carbon infrastructure partly or wholly through general taxation than levies on consumer bills, particularly where uncertainty about continuity or political/economic sustainability of future policy raises risk and hence cost of capital to investors.

Energy:

19. What is the highest value solution for decarbonising heat, for both commercial and domestic consumers? When would decisions need to be made?

Industry needs market-led, least cost decarbonisation of heat if it is to remain internationally competitive. Where there are lower cost opportunities for heat decarbonisation in other sectors, these should be pursued first (domestic heating, buildings, commercial, public sector). Subsidies should not distort use in different sectors, e.g. by favouring use of biomass in power generation over its use in industry.

Gas will remain an essential chemical feedstock and heating fuel for certain industrial applications for the immediate and foreseeable future. It may be sensible to assess the technical and economic potential for hydrogen as a substitute or for blending with natural gas, but it would be premature to reach any decisions about its deployment until further assessment and demonstration projects have taken place.

There are existing high value heat decarbonisation opportunities that are not yet fully adopted or maximised. For example, despite availability of subsidies to encourage investment in renewable electricity generation and low carbon heating (Renewable Heat Incentive, RHI) there is no equivalent support available to industrial processes that use direct heating (e.g. cement and lime manufacturing). Paradoxically, only processes with the added inefficiency of heating by an intermediate liquid are eligible for the RHI. This lack of support means that there is no incentive for manufacturers to invest in infrastructure to overcome the technical challenges of switching away from fossil fuels to low carbon alternatives, such as biomass or biomass waste derived fuels. Furthermore, the subsidy vacuum restricts these manufacturers from maximising their low carbon fuel sources because they are competing for the same sources in a distorted market that favours electricity generation and RHI listed technologies. There is an urgent need to reform policies to allow support for direct heating using non-fossil fuels in industrial processes.

20. What does the most effective zero carbon power sector look like in 2050? How would this be achieved?

Note: the “zero carbon power sector” includes the generation, transmission and distribution processes.

A decarbonised power sector must continue to deliver baseload and dispatchable supply at internationally competitive prices with at least the same level of security as at present. The effectiveness should be judged by the service it delivers to consumers in terms of reliability and value for money. It is therefore desirable to encourage diversity, but equally to avoid central planning based around arbitrary targets that may or may not prove technically, environmentally or commercially practical. This applies equally to energy generation, transmission, distribution, storage, and import infrastructure – the objective should be to maximise productivity across the entire energy chain.

21. What are the implications of low carbon vehicles for energy production, transmission, distribution, storage and new infrastructure requirements?

Consideration will need to be given to the potentially significant impact of electric vehicle charging on the electricity system in terms of the additional electricity generation, storage, transmission and distribution capacity that may be required to maintain security of supply.