

Response by the Joule Centre to the Energy Review Consultation “Our energy challenge, securing clean affordable energy for the long term”.

- 1) The Joule Centre for Energy Research was established in October 2005 by the North West Development Agency, as a partnership of North West universities, commercial organisations and other stakeholders associated with the energy industry. Its mission is to support the work of the North West Energy Council on both energy policy and economic development. The Joule Centre is hosted by the University of Manchester. The vision of the Joule Centre is:

“To create an internationally-leading energy research centre in England’s North West which will significantly increase the region’s research capabilities in key areas of new sustainable energy technologies and energy systems”

- 2) This response to the Energy Review Consultation was developed following two Discussion Meetings held by the Joule Forum, which is a broad grouping of academics and other stakeholders in the Joule Centre.

Demand Side Measures

1. The emphasis of the Consultation on the Demand Side was welcomed. Without effective measures to reduce energy demand in all sectors, including land, air and sea transport, there appears to be no practical route to attain the goal of reducing CO₂ emissions by 60% by 2050. Demand reduction also contributes to the other three goals of UK energy policy.
2. The Government is presently investing considerable sums in demand side measures through a wide variety of schemes and organisations (e.g. EEC, Carbon Trust, Energy Savings Trust etc). It was disappointing that the effectiveness of this expenditure was not addressed in the Consultation document. *Given the importance of demand reduction, a critical evaluation of the effectiveness of demand reduction funding at both the national and regional level should be undertaken.*
3. Reliance on high energy prices alone is unlikely to lead to the scale of demand reductions needed without unacceptable levels of fuel poverty and other adverse economic consequences. The "Manchester is my plant – climate change pledge campaign" is one model of a campaign intended to modify behaviour. *Such campaigns should be evaluated and then, if shown to be successful, replicated.*

4. Although Energy is a responsibility of central government, the 2003 White Paper included an aspiration that ".. a strategic approach to energy is developed and implemented in each region". Good progress has been made within the North West region through the establishment of the North West Energy Council, the Joule Centre for Energy Research, Manchester is my Planet and the development of the Regional Energy Strategy by the North West Regional Assembly. *The Review should give clarity of the expected role of the Regions in implementing national energy policy, developing specific regional energy strategies and implementing demand reduction.*
5. Presently academic and industrial research into new approaches to energy demand reduction is limited. Although considerable benefit would be obtained by wider implementation of well-known energy demand reduction measures, the scale of the reduction needed calls for increased investment in demand reduction research. In addition there is a shortage of technical skills in many areas of demand reduction. *The Review, together with the Research Councils and others, should consider targeted approaches to addressing the demand side skills shortage at both the research and practitioner levels.*

Supply Side Measures

6. The increased dependence on gas imports will decrease the level of primary fuel diversity in UK electrical generation. A diverse electricity generation mix is unlikely to be delivered by the present market mechanisms. *The Review should consider how to deliver such intuitively desirable outcomes without distorting the present energy markets. We recognise the difficulty of this and the value judgement of what is "intuitively desirable" but do not have confidence that the present market arrangements are likely to deliver appropriate long term energy infrastructure development.*
7. The present developments of low carbon electricity generating technologies, e.g. CCS, marine energy and micro-generation, are encouraging. However UK energy research is fragmented leading to lack of critical mass of researchers and difficulties in moving to development, demonstration and deployment. *The creation of the National Institute for Energy Technologies is welcomed and the Review should address how UK low carbon energy research should be co-ordinated. The education and training of skilled staff (both researchers and practitioners) is a key element in such considerations.*
8. It is difficult to see how significant progress on either the demand side or supply side of energy can be made without local involvement. This is obviously necessary for demand reduction through behavioural change

but is also necessary for supply side options if lengthy planning delays are to be avoided. *The large number of bodies and organisations presently working on aspects of energy at the regional level should be reviewed and the potential role of regional energy agencies to provide co-ordination investigated.*

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