



**Association for the  
Conservation of Energy**

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**PIU Review of Energy Policy  
Submission from the Association for the Conservation of Energy**

**Introduction**

The Association for the Conservation of Energy is a lobbying, campaigning and policy research organisation, and has worked in the field of energy efficiency since 1981. Our lobbying and campaigning work represents the interests of our membership: major manufacturers and distributors of energy saving equipment in the United Kingdom. Our policy research is funded independently, and is focused on four key themes: policies and programmes to encourage increased energy efficiency; the environmental benefits of increased energy efficiency; the social impacts of energy use and of investment in energy efficiency measures; and organisational roles in the process of implementing energy efficiency policy.

We welcome this opportunity to engage in a vital debate on the future of UK energy policy. We feel that this debate is timely, and offers a genuine opportunity for radical change. We hope that full use is made of the chance to set the UK on a course towards a sustainable system for the delivery of energy services.

The Prime Minister, in a response to a parliamentary question on 12<sup>th</sup> July 2001, stated that demand side management and energy efficiency would form a key part of this review. We expect the review team to deliver on that statement.

**General remarks**

We applaud the ‘bottom line’ of the project as defined in the initial scoping note: if genuine change is to be encouraged, the ‘framework and practice of energy policy making’ must change.

In this context, we are disappointed to note that the working documents from the team to date consist almost exclusively of notes relating to traditional sectors of the energy system, rather than broader ranging discussions of whether the system in its entirety remains a suitable one in a world where the delivery of sustainable energy

services will become of paramount importance. We urge the team to prepare and disseminate such a framework for thought at the earliest possible time, to encourage input from specialists in the wider energy community which transcends narrow viewpoints and interests.

In addition, discussion of the “energy market” describes only a commodity market, not one in which energy consumers play a part, therefore all discussions concerning market mechanisms have become biased towards economics, with no consideration of social or environmental sustainability.

The remainder of these general comments provide our initial thoughts on the wider picture, which we hope will be of use to the team. Following these, we address some of the specific questions raised in scoping notes for areas in which we have specialist knowledge.

### *Is our energy system the right one to take us forward?*

As it is based on the separate supply of energy and energy-using equipment, we believe that the present system is inadequate to meet the policy challenges ahead. A framework is needed which allows the clear identification of required energy services together with the most economic and socially acceptable means to deliver them. This means that energy users have to become the focus of energy policy, not energy producers and suppliers or narrowly defined “market mechanisms”. Consumers (domestic, commercial and industrial) are not interested in buying units of power, but in light, heat and motive power that enables them to achieve their objectives.

Defining the energy services we need is not a straightforward exercise: is a pleasant working environment one which is at a constant temperature and lighting level, or one which is more closely connected to outside conditions but kept within reasonable limits? What is the service we demand when shopping – how do the factors of location, convenience, price etc. interact to define the energy service we need (both in terms of the energy use characteristics of the store, and the transport services we use to reach it)? A serious consideration of this issue is needed as a prerequisite to sensible policy making.

### *A level playing field*

Once the energy services we need have been defined, the technical options for their delivery should be compared in a consistent and transparent way. The inconsistencies in the treatment of demand and supply side options are illustrated well by the DTI submission to the PIU review: supply options are compared in terms of the £/tC emissions avoided they imply, whilst demand options are discussed in terms of cost-effectiveness of energy savings and payback periods.

Meeting a target 60% reduction in carbon emissions is challenging, and will require contributions from a wide range of the technical options available. To choose the optimal mix of these will require a well defined methodology which includes not only their narrowly defined ‘economic’ costs and benefits and their contribution to carbon emissions reduction, but also a transparent means by which other (potentially

unquantifiable) aspects of their impact (social, environmental, policy, etc.) can be compared.

### *Public acceptability: the need for transparency and consensus building*

The vast majority of people have little or no interest in the mechanics of how their demands for energy services are met, or indeed what these demands actually are. However, if we are to develop policies in which there is a sustainable, secure supply of energy, then both the supply and the demand generated must be addressed. People's expectations are that their energy demands will be met. Meeting them in a sustainable way will require, as a first step, a much higher level of understanding and acceptance of the facts: demands for energy services at present lead to carbon emissions; that these emissions have to be reduced, that individuals have to take responsibility for their actions and that positive choices which will make a difference are available to all.

The present system of remote production / generation of cheap energy which appears 'clean' to most end users does nothing to assist this change. Historically, the separation of fuel and electricity production from population centres was sensible, but the rise of global environmental issues, combined with the emergence of new technologies for small scale decentralised heat and power production and distribution mean it is time to rethink.

Offering people a choice between a range of locally based power/heat providers and requiring that a certain proportion of local energy demand was met from local sources would be one way to avoid the problems of 'nimbyism' and would certainly bring the link between energy use and its production closer to people's consciousness. Similarly, offering people a choice between more local power / fuel production or greater investment in energy efficiency could overcome unwillingness to invest in 'unseen' efficiency improvements. These choices need to be made on the basis of clear, unbiased information, available and promoted to all.

A valuable output from the PIU work would be a small number of alternative energy futures, vividly illustrated, which could be used to begin a process of public involvement: offering the wider population a series of achievable options, all of which would meet energy policy objectives (including that of carbon emissions reductions), together with their implications for health, welfare, private and public economics and the local and global environment; and establishing which of these is preferred.

### *Institutional structures*

Energy policy making is at present fragmented, and its various components based on very differing sets of policy drivers. The development of a sustainable energy system is in essence about meeting the energy service needs of consumers in the most economically, environmentally and socially sustainable way. At present it seems irrational that policy making is based in a government department whose duties appear biased towards sponsoring the interests of producers (although naturally their expertise in the practicalities of meeting consumers' demands using given production options will be vital). It might be suggested that we need an energy agency tasked with the overall delivery of a sustainable energy system, reporting directly to Cabinet

Office. However, if government policy truly emphasised sustainability instead of persisting in prioritising economic interests of large industries, the system could be made to work whichever organisational model was selected.

### *Innovation*

Many of the comments above relate to innovation in the development and delivery of a sustainable energy system. In contrast, much of the discussion about innovation with regard to sustainable energy services revolves around the development of new technologies. Hence, one of the crucial first steps along the path to a new energy system is a change in mind set to allow a broader consideration of the ‘innovations’ we need, and an understanding that technologies includes the means and know-how to effect change, not just the machines and science involved.

## **Comments on ‘objectives and uncertainties in energy policy’**

### *Energy policy objectives*

The scoping note defines present energy policy objectives well, and identifies the recent predominance of economic objectives. What is now required is a definition of the energy policy objectives needed to take us forward. We suggest that the overriding objective should be the delivery of energy services in an economically, environmentally and socially sustainable way.

We expect that environmental objectives and security of supply will be central to energy policy for the foreseeable future. However, this does not need to be at the expense of economic and social objectives, since the wide range of options available to us should allow all to be taken into consideration.

### *Uncertainty*

The questions posed in the scoping note concerning technological uncertainty can only be answered sensibly within the framework for comparison of options we suggest in our general comments above.

Most of the suggestions made in the scoping note about energy/economy/environment trends seem sensible. Whether the demand for personal means of transport continues to grow or security of access to energy services becomes more highly valued will depend entirely on how policy shapes infrastructure and innovation. We suggest that in the case of the former, policy must ensure that this trend is reversed.

## **Response to the scoping note on energy efficiency and combined heat and power**

### *Rates of technical change*

Rates of technical change affecting energy efficiency could increase dramatically if market conditions were appropriate as numerous instances, both historical and

localised present day, demonstrate. For example, Swedish procurement programmes have successfully transformed markets for white goods, in terms of the average energy efficiency of appliances offered for sale, simply by organising a temporary guaranteed market of sufficient size to justify the cost of investment in technical development.

### *Barriers to the take-up of energy efficiency*

Many of the barriers to the take-up of energy efficiency will only be broken down by policy actions which address behaviour in a more fundamental way than presently. Energy policy needs to get hearts and minds to change, and to move away from the impact of price. Energy needs to be given a value, not just a cost. Enabling people to undertake any particular energy efficiency action can certainly cut energy use and emissions as a result of a specific measure; however this is unlikely to result in sustained changes in energy-related behaviour. A more fundamental change in understanding and responsibility needs to be engineered.

Specific policies need to be addressed to those who provide for energy efficiency yet do not benefit from the services provided. This is the classic landlord-tenant problem. In some instances, especially where behaviour change is thought to be too difficult or too time consuming to stimulate, regulation may be the only way to ensure that sufficient efficiency is achieved (building regulations are one key example of this).

### *Long-term effects of prices*

Perception of energy price is far more important than actual price (for example, the 'threat' of VAT on domestic fuels had far more of an impact on energy related decisions than its actual introduction). Thus clear and repeated signals that energy will get more and more expensive is probably the only situation in which price will have any appreciable impact on levels of efficiency, other than with the most energy intensive industries.

The long-term effects of energy costs also need to be considered, and be evaluated on a lifetime basis. The most sustainable supply of energy is that which does not need to be generated, so a sustainable energy policy needs to deliver all savings which are cost effective to the individual customer.

At present both gas and electricity companies deliver mandated energy efficiency measures to domestic customers at an average cost of 1 - 1.5 pence per kWh saved; these schemes do not even incorporate all the potential savings at this average cost because they are limited in size or use artificial pay-back periods. The cost to the customer is at present nearer 7 pence per kWh. For the customer it remains more cost-effective for every energy efficiency measure which costs up to 7 pence per kWh to be installed. This emphasises the need to take account of investment now on long term cost savings, just as the lifetime costs of energy generation need to be taken into account in scenarios involving additional generation capacity.

### *Structural change in the economy*

Across a sixty year period various assumptions need to be made about the economy. However those assumptions must be consistent, and take account of growth as well as decline. In the change from an industrial to a knowledge-based society, it might be expected that a Treasury model would see living standards doubling (GDP increase by a factor of 2), even whilst industrial process energy consumption would decline from 20 to 10% of total consumption. However, the amount of energy used by industry would stay steady due to overall growth in the economy, and the increase in energy used by knowledge based industries, and the potential growth in electronic data, transport deliveries, and increase in communication both electronically and physically, would continue to grow (the service sector energy increased by 40% from 1990-1995).

#### *Longer-term policy instruments*

One obvious option is the use of price increases for the domestic sector. Although this is not a politically feasible or socially acceptable option at the present time, the government's commitment to eradicate fuel poverty should mean that this policy tool can be considered in the longer term. The use of innovative tariff structures for the domestic sector should also be considered, allowing 'essential' energy use to be charged for at a lower rate than 'discretionary' use.

#### *Prospects for energy services markets*

Energy services, particularly in the domestic sector, are unlikely to develop to their full potential in the present policy and institutional environment. Our general comments above suggest an alternative framework which we think is required.

The Association would be pleased to discuss further any of the points raised above, or to provide any further information at our disposal should it be required.

*Association for the Conservation of Energy*  
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