RSE - INQUIRY INTO ENERGY ISSUES FOR SCOTLAND

I refer to the letter from Professor Irvine dated 13 May 2005 inviting the Council to respond to questions in the accompanying consultation document. As far as this Council is concerned, I have sought replies to questions 11 to 13 which I consider are the most valid questions on which the Council could comment.

I have consulted with various colleagues within the Council for their comments and these are as follows:-

Question 11

Method of generation

Different fuel technologies are associated with different environmental impacts such as nuclear with radiation leaks, long-term waste disposal, decommissioning, etc; coal with global warming, acid rain, subsidence, etc; on-shore wind with visual intrusion, bird strikes, decommissioning etc.

The scale at which power is generated also varies the impacts. Distributed (local) generation suffers fewer transmission losses than centralised generation and so needs less power to be used. It can also avoid the need for supporting infrastructure (e.g. overhead pylons, the magnetic and electrical fields of which have been associated with impacts on human health).

The knowledge regarding these impacts varies, so that some impacts may be considered to be accepted, and others to be disputed. However, in attempting to devise a sustainable energy strategy, any assessment of these impacts must take into account the range, magnitude, risk, accumulation, persistence and reversibility of the impacts.

On this basis, it would be difficult not to conclude that the overriding environmental concern must be climate change. The potential impacts of climate change are widespread and significant. Climate change potentially includes impacts that are irreversible (e.g. species extinction) and catastrophic (e.g. melting of the Greenland ice-sheet causing a 3m rise in sea levels).

It could therefore be argued that all other environmental concerns are secondary to the imperative to reduce/mitigate climate change. This is not to say that the environmental impacts of other technologies are insignificant or to be ignored, rather that decisions on how our energy is supplied must always be taken in this context.

Level of use

Demand for energy does not create an environmental issue *per se;* it creates an environmental issue through its resultant effects upon supply. The environmental concerns regarding the demand for energy therefore centre on the issue of energy efficiency. It is essential to reduce demand for energy, through encouraging greater energy efficient behaviour, in order to reduce the environmental impacts of supply.

Research has shown that demand for energy is increasing, and demand continues to be predominantly driven by cost considerations, not by the environmental impact of energy use (e.g. people and businesses are more concerned to get cheap, rather than 'green' energy). The availability of cheap energy, and the comparatively low proportion of household income spent on fuel, mean that energy efficiency is not a priority for most households.

However, there also exists the social condition of fuel poverty, where households cannot afford to adequately heat their homes. It is therefore important that any proposed mechanisms to reduce energy demand (e.g. taxes on energy inefficient homes) recognise this condition and do not unfairly penalise the fuel poor.

Pollution

This impacts on air, land and watercourses including noise. A large sector of classified contaminated land is associated with previous energy production methods. For those sites with a long history, the legacy of the "tidy up" falls to the public sector whether it is land reclamation or capping/sealing in the problem. Run off of contaminates into watercourses can be delayed and only come to light when damage is evident. Recent concerns have been raised over the damage being caused to watercourses during the construction phase of wind farms - most notably in fragile upland areas.

Traditional sources of energy will have an impact on the environment even with improved technology. Burning of fossil fuels will create air pollution in the form of particulates, nitrous oxides, sulphur oxides and carbon dioxide. Reduction or elimination of these will be expensive. In terms of nuclear generation the disposal and management of nuclear waste will require to be addressed.

Generally

In addition to the potential loss or degradation of wildlife habitat, flora, etc there is an issue regarding public perception where the public remain concerned about the energy sector. This is reflected in matters such as oil spillage, visual impact of wind turbines, quality of emissions from coal/biomass plants, public health issues around the nuclear industry, climate change, living in the proximity of overhead pylons, and emissions from household appliances. There also remains an issue with energy pricing policy and the publicity surrounding company practices in attracting and retaining customers.

Question 12

It is doubtful whether environmental improvement and economic growth can be met without a major increase in the costs of generation. Energy costs are currently low and are not a priority for most households and it may be that to encourage changes in the market towards more energy efficiency supply and demand energy costs may have to rise.

There is therefore an issue of (a) what is meant by 'energy costs' (is this the costs of generation, or the cost of consumption? Is this the capital cost or the revenue cost?); and (b) who is meant to pay for it (is it the generator or the consumer?). These are not necessarily linked, and different market interventions might be considered to achieve different aims. For instance, the cost of generation could

rise without affecting the cost of consumption if price caps were introduced. Vice versa, if end-of-point fuel use were taxed, this could affect the cost of consumption without affecting the cost of generation.

The Council consider, however, that much more consultation with stakeholders should be carried out so that an informed debate can be held. It may be that the answer lies in developing a more distributed energy generation system, where householders generated much of their own energy through renewable technologies (solar hot water, microwind, etc). Although this may have higher capital costs, it would have lower running costs and would help to 'buffer' households from the vagaries of the energy supply market. However, over the period in which one householder is resident in a property, this may not currently represent an attractive investment, although it may be an attractive investment over the lifetime of the property itself, and from the point of view of society if priority is given to tackling climate change.

More debate could be encouraged in:-

- promoting more efficient industrial and domestic appliances;
- making energy audits for industry compulsory (operational and non-operational activities);
- placing more emphasis on the impact on the "bottom line" to the business sector of being more energy aware;
- supporting (directly and indirectly) innovation in new "cleaner" methods of generation - knowledge based and support with production.

At a very local level and from past experience with Council led neighbourhood initiatives personal and property security has been improved by the introduction of additional or improved street lighting. Further improvements are achieved through the introduction of backcourt lighting. This all adds up to the need for more energy, however, is the cost of community safety and confidence valued higher than the energy generated?

Question 13

The energy sector in North Ayrshire accounts for approximately 600 jobs. This represents 1.5% of employment in North Ayrshire. This compares with 0.5% for the Scottish economy.

The North Ayrshire economy has had a long association with the sector and in particular with the generation of energy at Hunterston, private generating facilities at major industrial plants (i.e. ICI, Stevenston, DMS Dairy) and recently in the development/siting of wind farms.

In addition, "downstream" industries supply products and services to the nuclear energy sector, services to the oil and gas industry and engineering machinery for the extraction of coal.

With regard to renewables and in addition to wind generation, the Council has had experience in assessing a proposed biomass plant.

Pending announcements on future energy strategies, it is to be hoped that energy generation will continue to play an important role in the North Ayrshire economy.

Energy affordability impacts on two key areas of economic regeneration in North Ayrshire. Firstly, energy costs are a key input to industrial production and competitiveness and secondly, in neighbourhood regeneration issues around financial management and fuel poverty. Companies located in North Ayrshire have access to a number of energy management programmes and it is acknowledged that in partnership with the Local Enterprise Companies, more needs to be done in this area.

Whilst not directly attributable to energy production or distribution, North Ayrshire Council has promoted a Community Benefit Fund linked to wind generating sites. The fund assists local communities who are directly affected by wind turbines to secure local environmental improvement works, support for energy efficiency measures and an element of educational benefit. This project is in its infancy but could secure important benefits at the local level.

In relation to the above, although in more general terms, it is considered that a distributed system of energy generation could result in winners and losers as for example there may be, as a result of a distributed system of energy generation, less demand for power station operatives but a greater demand for solar water heating installers.

Systems of power generation that tackle climate change will also help tackle human health issues by reducing air pollution and water pollution. A distributed energy generation system could also reduce the need for overhead pylons where there have been allegations that these cause ill health due to the electrical and magnetic fields that surround them.

In addition, as currently most forms of green energy are not competitive, mechanisms such as the Climate Change Levy require to be introduced to address this.
I hope that the above comments are useful to you in your inquiry.

Yours sincerely

Head of Corporate and Democratic Support