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Dr. Marc Rands
The Royal Society Of Edinburgh
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Dear Dr Rands

RSE Inquiry Into Energy Issues For Scotland

I refer to Professor Irvine's letter of 13th of May 2005 and would like to thank the RSE for the invitation to provide a submission to the above inquiry.

Before responding to those stakeholder questions on which we are competent to comment, I would like to make some general remarks.

The Confederation Of UK Coal Producers (CoalPro) represents member companies who produce over 90% of UK coal output, approximately one third of which is mined in Scotland. CoalPro is not opposed to the development of any sort of energy. CoalPro is pro coal. We have prepared a policy paper, 'Coal In A Balanced Energy Policy', which we think the committee will find of interest and relevance to this inquiry. A copy is attached.

Professor Irvine's letter rightly refers to the context of the UK, European and global energy environment. This is of particular relevance to Scotland because of its exportable surpluses of many forms of energy, not least electricity and coal, which add significant value to the Scottish economy.

Professor Irvine also refers to the economic implications of replacing fossil fuels with renewable sources. Scotland is blessed with plentiful potential sources of renewable energy but this is much less the case for the UK as a whole. Whilst renewable sources may therefore replace some fossil fuel in the generation mix in Scotland, this is much less likely, perhaps unlikely, for the UK as a whole.

UK electricity demand is growing at about 1.5% a year. The UK government has an aspiration to produce 20% of electricity from renewable resources by 2020. Even if this ambitious aspiration is achieved, this will do no more than, at best, satisfying the growth in electricity demand unless real progress is

made in the equally ambitious energy saving objective. Given the likely reduction in output from the nuclear stations in the period up to 2020, it is probable that there will be no reduction in the consumption of fossil fuels by the year 2020. On the contrary, there may be an increase. Overall, therefore, the replacement of fossil fuels with renewable sources is unlikely and the question of economic implications does not arise.

In this context, there are huge opportunities for the Scottish economy in increasing exports of both electricity and coal to the UK, the economic implications of which will be substantially beneficial.

I would also like to qualify Professor Irvine's remark that the UK's ample coal reserves may not compete economically with imported supplies. International coal prices have increased significantly over the last two years, albeit to less of an extent than oil and gas prices. Coal burn in the UK has increased by 20% in recent years. Whilst some reduction in international coal prices from recent peaks can be foreseen, it may be, as with other fossil fuels, that there has been a step change such that the long-run average price going forward may be significantly higher than in the past.

This has transformed the prospects for the UK coal industry. Whilst there may be some further decline in English deep mine output as mines exhaust, there are substantial reserves of coal that can be mined from the surface, not least in Scotland. UK surface mined output now equals that from deep mines, it is highly profitable, and is fully competitive with international supplies. In fact, prices of coal from UK sources now substantially undercut imports.

The opportunities for the Scottish economy are obvious. The challenge is not economic, it is being able to access and work these reserves through the planning system. Recently published draft planning guidance by the Scottish Executive (draft SPP16) for the extraction of surface mined coal will make these planning difficulties greater and will constrain future Scottish output and reduce the related economic benefits.

I now turn to the stakeholder consultation questions.

General

1. Scotland's future energy needs are best met, over whatever period, by ensuring that a balanced portfolio of energy sources is available. A mix of sources is most likely to keep prices low and ensure security of supply. Care should be taken to ensure that policy objectives on renewables and carbon dioxide emission reductions do not preclude any energy source. In this context, near zero carbon emissions from fossil fuels can be achieved in the medium term, i.e. within the next 20 years, by carbon capture and storage. This option may well be cheaper than most, if not all, renewable sources and can also be applied to enhancing the recovery of oil and gas from the UKCS. It should also be noted that an increasing reliance on renewable sources from which the output is intermittent or cannot be synchronised with demand will lead to an increasing requirement for back-up from flexible generation

sources, the most appropriate of which is coal-fired. This will not come for free. Fossil fuel generators cannot be expected to operate at minimal load factors. Either they will need to generate at reasonable load factors, or be paid for just being available.

2. Most successful economies are not self sufficient in energy and there is no need for Scotland to aim to be so. Such an objective in isolation will impose significant costs on the Scottish economy as it will inevitably lead to the use of higher cost sources. The same applies, but less clearly, to electricity. Scotland at present has an exportable surplus of electricity. This will disappear as the ageing coal and nuclear stations close, offset to a degree by increased renewable generation. That picture, however, is no different to the rest of the UK. New generation capacity will be needed across the piece. There is no particular reason to aim for self-sufficiency in generation, provided transmission links are adequate, but there may be economic advantage in doing so.

3. As Scotland and the UK become increasingly more reliant on imported oil and gas, some rebalancing of their economies will be required but the implications and consequences need not be dire given that most successful economies are more reliant on oil and gas imports than Scotland and the UK. It will, however be necessary to guard against security of supply and increased price volatility risks. This can best be guaranteed by retaining a mix of energy resources, not least by replacing the existing coal and nuclear power stations as they reach the end of their lives.

One disadvantage that Scotland faces is the likely limited operating regime from 2008 on, and the likely closure by 2015, of Scotland's coal-fired power status because of Scottish Power's failure, at least thus far, to invest in flue gas desulphurisation. This is in sharp contrast to the significant commitments made by coal-fired generators operating elsewhere in the UK, eg. Scottish and Southern, which will enable them to continue to operate at high load factors and which gives them the option of continuing beyond 2015.

Energy Supply

4. This is a huge and complex question, the answer to which will encompass very considerable uncertainties. CoalPro does not have the technical ability to comment in detail. As a general point, we would point out the intermittency of many renewable sources and the inability to load follow of all renewable sources, and the consequent need to retain back-up fossil fuel capacity.

5. As global demand increases, the price of all fossil fuels is likely to increase in real terms. However, the relative reserves base is such that oil and gas prices are likely to increase more rapidly than coal prices. Coal prices are already lower than gas prices, except perhaps at the height of summer, which is why coal burn has increased significantly in the UK in recent years. Of equal importance is the fact that oil and gas prices are also much more volatile than coal prices which adds major uncertainty. The risks of absolute

supply interruption are also greater for gas in particular as the global distribution network is characterised by a small number of single installations, and storage is limited and expensive. Coal, on the other hand is characterised by a multiplicity of distribution channels and can be easily stored at various points in large quantities.

6. CoalPro is not competent to comment.

7. CoalPro is not competent to comment.

Energy Demand

8. Prices of energy are increasing because of the increasing price of fossil fuels and because the price of carbon allowances in the European Union Emissions Trading Scheme is now being included in electricity prices. These trends are likely to continue. It should also be noted that all low-carbon forms of generation are comparatively expensive and, as these develop, will further increase costs to be borne by the consumer. Other things being equal, higher energy prices will reduce demand as energy savings measures are introduced. In a worst case scenario, higher European electricity prices resulting from the EUETS may result in industry relocating elsewhere.

9. CoalPro is not competent to comment.

10. The demand for energy for transportation is likely to continue to increase until oil prices rise to such an extent that demand is choked off. Hydrogen offers a way forward for reducing transportation fossil fuel demand in the longer run. Some proponents of hydrogen economy point to the ability to produce hydrogen using renewable and/or nuclear energy. This is fantasy land and would be horrendously and prohibitively expensive. A far more realistic route is to capture and sequester carbon dioxide from fossil fuels (gas or gasified coal) leaving hydrogen which can then be used to generate electricity and/or as a transport fuel.

Environmental And Social Issues

11. There is no reason why the energy economy cannot continue to develop whilst fully taking environmental concerns into account and minimising, or even reducing environmental impacts. Existing deployed technologies have dramatically reduced emissions of the oxides of sulphur and nitrogen and consequently acid rain to the extent that it is now a relatively minor issue. With respect to global warming, a range of technologies can be deployed, including for fossil fuels, to dramatically reduce carbon emissions. The issue is cost. All low-carbon technologies are expensive – nuclear, renewables, clean coal, clean gas, clean oil, hydrogen. The crucial issue is how the environmental and economic issues can best be balanced. Waste management is a relatively low order issue for the energy industries.

12. Probably not. An informed debate can best be initiated by recognising and promulgating the fact that no one technology, or family of technologies,

will provide the answer. All existing technologies, and perhaps new ones will be required. Above all, this means that the debate should be led by people who recognise this and who have not been captured by special interests. The recent argument conducted in the press between the proponents of renewables and nuclear power, as an example, has generated a good deal more heat than light and has not, nor will not, provide the long term answers that society needs. CoalPro will be pleased to take part in any such debate and remains available to provide any further input that the Society requires.

Yours sincerely

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Director General

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