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Dear Dr Davidson,

Re: need for 'joined up thinking': Scottish science policy and energy policy

Isabell Donnelly, at the Enterprise and Lifelong Learning Department of the Scottish Executive, recommended that we write to you. She told us that you are reviewing the priorities of Scottish science, in order to advise the Executive.

We enclose a copy of our report, *Degrees of Capture*, which reveals some disturbing findings on climate change strategy and the higher education sector. The report examines the relationship between Britain's universities and the oil industry, and how this relationship impacts on the economics of the energy market. Scottish Universities feature heavily in the report's findings, and the report includes case studies of Aberdeen, Dundee and Heriot-Watt Universities in section 2, and Robert Gordon University in section 8.

You may have seen the Energy White Paper published earlier this year by the UK Department of Trade & Industry. In order to prevent dangerous levels of climate change, the White Paper set a target of reducing our emissions of carbon dioxide (and hence reducing our use of fossil fuels) by 60% by 2050.

The Scottish Executive welcomed and endorsed that target in its official response, a letter from Allan Wilson MSP, Deputy Minister for Environment and Rural Affairs, on 25 March 2003. Ms Donnelly added in her letter to us that the Executive will work in partnership with the UK Government in playing a full part in delivering that objective.

The most recent report by the Intergovernmental Panel on Climate Change found that global average temperatures are likely to rise by between 2 ^{0}C and 6 ^{0}C over the next century – causing widespread ecological disruption and economic damage, as well as threats to human health and the creation of many environmental refugees. The Energy White Paper estimates that each tonne of carbon emitted to the atmosphere causes £70 of damage – a unit cost that is increasing by £1/tC per year. Global emissions amount to 6 billion tonnes of carbon per year.

Our *Degrees of Capture* report finds that a huge amount of university research resources, both in Scotland and in England, are devoted to developing technologies and exploring new geological zones for the oil industry. According to our analysis, by expanding the available resource and lowering costs, further research into oil and gas technologies and geological exploration enhances the competitive position of these fuels relative to their alternatives – such as renewable energies. In essence, it undermines the needed transition to a Low Carbon Economy, as set out in the

Energy White Paper, and commits greater quantities of carbon to extraction and emission into the atmosphere, causing more climate change.

On 25 March 2003, Ross Finnie MSP announced a new target for renewable electricity generation, of 40% by 2020. As we outline in chapter 6 of *Degrees of Capture*, the extensive research and development (R&D) in Scottish universities into improving the competitive position of oil and gas will undermine Scotland's ability to achieve that target.

On top of climate change considerations, it would also be in the interests of competition and innovation for government support to be focused on small, nascent industries, such as renewable energy, rather than mature, profitable industries such as oil and gas. The fossil fuel industry has the resources to fund R&D by itself, while the renewable sector is dependent on initial investment to get established. As the North Sea declines as an oil-producing area, Scotland's energy future will lie in renewable energies, especially offshore wind. Some are taking up this challenge; for example, as the case study in the enclosed report shows, Robert Gordon University is very involved in developing renewable energy technologies.

Degrees of Capture also finds that only about 7% of oil-focused R&D deals with safety and environmental aspects of oil production.

We believe, based on this research, that it is time to phase out all subsidies for fossil fuel R&D, in favour of renewable energy R&D – with the exception of oil and gas R&D which directly relates to mitigating the negative environmental and safety impacts of operations.

More broadly, we believe that the underlying reason for this conflict of policy is the historical unqualified gearing of science policy toward maximising economic activity, under the banner 'wealth creation'. *A Science Strategy for Scotland*, published by the Executive in 2001, sets as one of its priorities an increase in the exploitation of science. Yet it fails to qualify this by identifying which forms of exploitation, or of university-business collaboration, are desirable and which are not – it appears to assume that all exploitation is necessarily a good thing.

We believe it is imperative that these goals do not take precedence over other policy priorities, and indeed major societal concerns. The principles of higher education policy must incorporate the broader public interest. We urge the Scottish Executive to modify its science policy accordingly, and to work with the UK Office of Science and Technology and with the Research Councils to rapidly phase out support for fossil fuel R&D.

We trust that you will pass this research and these views on to the relevant people in the Executive.

Yours sincerely,

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