



**THE SCOTTISH COUNCIL FOR DEVELOPMENT AND  
INDUSTRY**

**RESPONSE TO PERFORMANCE AND INNOVATION UNIT  
(PIU)**

**ENERGY POLICY REVIEW**

**SEPTEMBER 2001**

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### **ENERGY POLICY REVIEW**

#### **Introduction**

1. The Scottish Council for Development and Industry (SCDI) is an independent membership network which strengthens Scotland's competitiveness by influencing Government policies to encourage sustainable economic prosperity. Its members are drawn from business, local authorities, trades unions, educational institutions and the voluntary sector. In recent years, SCDI has made policy submissions to Government on a wide range of energy issues, including the Climate Change Levy and the Renewables Obligation (Scotland). SCDI is pleased to offer its comments on the above consultation document.

#### **Recommendations**

- **Government should provide support for research into the development of technology that would allow the capture and storage of carbon dioxide from electricity generation.**
- **There should be a fundamental review of the operation of the Climate Change Levy (CCL), which would encourage a switch to less carbon-intensive energy and a more efficient use of energy.**
- **All of the proceeds of the CCL should be directed towards assisting industry to use energy more efficiently, supporting the development of renewable energy and promoting energy efficiency.**
- **The remit of the electricity industry regulators should be revised to require a comprehensive regulatory impact assessment which demonstrates that each decision taken by the regulator is consistent with climate change objectives.**
- **Government should share the investment costs in developing the transmission infrastructure to cope with a significant increase in renewable generation in Scotland for the benefit of UK consumers.**
- **The cost burden of developing renewable energy in Scotland, which will make a significant contribution to the UK's target of 10% of electricity generated from renewable sources by 2010, should not be borne by the Scottish consumer alone.**
- **Government should take steps to capitalise on existing expertise in renewable energy to create global leaders, especially with regard to the European Union's enlargement plans.**
- **If the issue of waste management can be satisfactorily addressed, Government should make an early decision to invest in new nuclear plants, which will contribute towards a balanced energy policy and long-term continuity of supply.**

- **Government should devote significantly more resources to promoting energy efficiency in industry and the population at large to enable them to cope with future rises in energy prices.**

## **Background**

2. SCDI notes that the Labour party manifesto for the recent general election committed it to “a secure, diverse and sustainable supply of energy at competitive prices” and stated that coal and nuclear “currently play important roles in ensuring diversity in our sources of electricity generation.” It also notes that the key aims of UK’s current energy policy, as set out in the DTI’s initial position paper submitted to the Review, are “to achieve competitive energy markets and prices, combined with security of supply as well as social and environmental objectives.”

3. The PIU review is intended to address three challenges in developing the objectives for energy policy:

- Managing potential conflicts between energy and environmental objectives;
- Ensuring continued security and diversity of energy supplies over the long term; and
- Managing potentially conflicting policy goals for energy prices.

4. SCDI welcomes the review and notes that it is intended to develop an energy policy for Great Britain to 2050. SCDI hopes that the outcome of this ambitious exercise will contribute towards providing the policy certainty that will allow industry – explorers, extractors, generators, transmission operators and users - to make long-term investment decisions. As this response argues later, a decision on the long-term future of the nuclear power industry must be a key element in an energy policy that looks 50 years ahead. It is disappointing that the Department for the Environment and Rural Affairs and the devolved administrations are only now launching their own consultation into the long-term management of radioactive waste (“Managing Radioactive Waste Safely”), a process that will not be concluded until 2006.

## **Scotland**

5. SCDI agrees that a national energy policy needs to take the global context into account. However, while many of the energy policy issues facing the rest of the country apply equally to Scotland, SCDI believes that there are particular Scottish circumstances that should be taken into account in the development of an overall energy strategy. For example, while nuclear power supplies a quarter of the UK’s electricity requirements, in Scotland, the share is significantly higher, currently standing at over half. Renewable energy has for many years provided a higher proportion of Scotland’s electricity, primarily through large hydro-electric power schemes, and Scotland has the potential to meet much of the UK’s current targets for electricity generation from renewable sources.

6. SCDI believes that Government needs to give business clear signals as to the direction that energy policy will take in the future in order to allow business to develop appropriate technology and to direct capital investment accordingly. In SCDI’s view, an energy strategy for the next 50 years should be based on the following principles:

- A balanced energy policy from a mix of sources is required in order to reduce volatility and increase security of supply.

- The United Kingdom must meet current and future emissions targets for greenhouse gases as part of the global effort to deal with climate change.
- Producing surplus energy for export should be encouraged where possible.
- There should be a substantial increase in the generation of electricity from renewable sources.
- It is difficult to see how the UK can meet its climate change commitments without nuclear power playing an important part. A significant proportion of the country's electricity needs are currently met by nuclear power and the implications of this must be addressed.
- Government should promote energy efficiency in businesses and homes in order to reduce demand.

7. SCDI's comments on the consultation paper now examine these principles in turn:

### **A balanced energy policy**

8. Market, technical and financial considerations make the question of the most appropriate UK generation mix a complex political and economic issue. SCDI would not support any efforts to prescribe specific targets for particular forms of generation. However, it believes that a balanced energy policy is required in order to reduce volatility and increase security of supply. Over-reliance on one fuel source would risk exposure to significant price increases in the event of shortages, or even disruption in supply. On present trends, DTI figures show the UK moving towards gas providing 70% of its electricity by 2020, with perhaps 90% being imported. Given the location of most of the world's major gas reserves (Russia and the Caspian, and North Africa) and the difficulty of predicting the political situation in some of those areas over the coming 50 years, SCDI considers that Government should take steps to minimise our exposure to the risk that supplies might be disrupted in the medium to long term. Depending on the future development of the industry, in SCDI's view, this could mean putting a ceiling on the proportion of the country's electricity that is generated by gas. It also means making the most of the UK's own oil and gas reserves through providing continued support for the PILOT initiative (the joint Government and industry programme for the UK Oil and Gas Industry) in efforts to maximise the extraction of oil and gas from the UK Continental Shelf.

9. The UK has plentiful supplies of coal. The flexibility of coal-fired generation makes it well-suited to providing some of the baseload supply to balance the variable output of renewable generation. In an electricity market where renewable energy will provide an increasing proportion of our supply, SCDI believes that coal will have an increasingly important role to play. SCDI accepts that coal-fired generation is currently a comparatively high emitter of greenhouse gases, although Scottish coal is of a very high quality, and low in sulphur. However, the benefits it brings in terms of security and stability of supply suggest that there should be significant investment in research into possible means for the disposal of carbon dioxide from fossil fuel generation, as recommended by the Royal Commission on Environmental Pollution in its report "Energy – The Changing Climate." (The RCEP Report). Further research on the use of woodlands as carbon sinks is also required, and a long-term energy strategy should include an active policy of mixed reforestation.

10. The contribution of nuclear power will be addressed later.

**SCDI recommends that:**

- **Government should provide support for research into the development of technology that would allow the capture and storage of carbon dioxide from electricity generation.**

**Climate change**

11. The RCEP Report suggests that the UK should achieve a 60% reduction in carbon dioxide emissions by 2050 as its contribution towards global action aimed at addressing climate change. SCDI supports the UK Government's commitment to reduce greenhouse gas emissions and to its obligations under the Kyoto agreement. Kyoto represents the beginning of the international process. SCDI hopes that out of the current study will emerge a clearer picture of the emissions targets that the UK will require to meet beyond 2010 if it is to achieve the 60% reduction.

12. Manufacturing continues to play a vital role in the Scottish economy and is important in sustaining many of Scotland's service sector jobs. Additional cost burdens which impact on the competitiveness of the manufacturing sector should be a major concern to the Government. SCDI wrote to the Chancellor of the Exchequer in June 1999 regarding its concerns over the design of the Climate Change Levy (CCL). SCDI remains concerned that the CCL penalises many of Scotland's most important manufacturing industries, such as whisky and paper manufacturers, through the recycling of its proceeds to reducing employers' National Insurance Contributions. In effect, the CCL acts as a cross subsidy from the manufacturing to the service sector, while putting Scotland's major exporters at a competitive disadvantage. The CCL is not a carbon tax, although carbon-intensive forms of generation are more heavily penalised; instead, despite its exemptions, it is effectively a tax on energy use itself. There is no real incentive on industry to switch to less carbon-intensive forms of power generation. SCDI hopes that the PIU inquiry will lead to a fundamental review of the operation of the CCL, which would lead a switch to less carbon-intensive energy and a more efficient use of energy. As a first step, serious consideration needs to be given to using more of the proceeds from the CCL to assist industry to make that switch. More generally, SCDI believes that Government needs to give industry clear signals as to the direction that energy policy will take in the future in order to enable it to develop appropriate technology and to direct capital investment accordingly.

13. On the demand side, one of the key concerns of the review is to resolve the potentially contradictory goals for energy prices. On the one hand, environmental concerns would suggest that prices should be increased – as has taken place progressively in recent years through the fuel duty escalator. On the other hand, social inclusion considerations as well as the competitiveness of British industry in international markets suggest that electricity prices for the consumer should be as low as possible. The latter consideration appears to have taken precedence in the development of the electricity market. The focus of regulation is currently on ensuring competition between generators, with resulting low costs for consumers. SCDI believes that, in future, regulators should recognise these longer-term Government objectives and that their remit should be revised to include a requirement

to demonstrate, via comprehensive regulatory impact assessments, that their decisions are consistent with these objectives.

14. Research carried out for the UK Round Table on Sustainable Development showed that a decrease in electricity prices might have only a small impact on increase in usage, while recent experience in California appears to show that consumers will begin to moderate their demand for electricity when prices increase, but only after steep price rises. SCDI therefore does not believe that price signals in themselves are enough to bring about a significant change in energy usage. Indeed, SCDI is not convinced that the negative impact of short term increased energy prices on industry and the poorest members of our society would be justified by any resulting decreases in consumption. Instead, SCDI believes that Government should concentrate on measures that will improve energy efficiency in industry and in the domestic sector (see comments on energy efficiency later in this paper) in order to prepare for significant rises in energy prices in the medium to long term.

**SCDI recommends that:**

- **There should be a fundamental review of the operation of the CCL, which would encourage a switch to less carbon-intensive energy and a more efficient use of energy.**
- **In the interim, all of the proceeds of the CCL should be directed towards assisting industry to use energy more efficiently, supporting the development of renewable energy and promoting energy efficiency.**
- **The remit of the electricity industry regulators should be revised to require a comprehensive regulatory impact assessment which demonstrates that each decision taken by the regulator is consistent with climate change objectives.**

**Exporting energy**

15. Historically, the energy sector has been one of Scotland's most important exporters. For example, SCDI's latest primary sector export survey shows that in 1999, Scotland's exports of oil and gas hydrocarbons totalled £5.283 billion out of total primary sector exports of £5.542 billion. The UK market for oil and gas hydrocarbons accounted for a further £1.756 billion. Further opportunities for the Scottish energy industry will arise as a result of the move towards a single market in electricity in Europe. In an uncertain environment, the UK needs large players in the energy market. This suggests that the UK should be encouraging the development of utilities that are genuinely global energy producers. The development of a pan-European market could help to bring this about.

16. If Scotland is to take full advantage of its renewable generating potential, the issue of infrastructure needs to be addressed. Given the location of the resource, this does not only mean the interconnector between Scotland and England, but also links with Northern Ireland and Eire, as well as the infrastructure across remote areas of Scotland. Costs associated with connection to the grid are likely to act as a major disincentive to many renewable schemes. SCDI believes that Government should examine how costs associated with grid upgrades could be spread over a longer period or amongst more than one generator, not simply the first generator in a particular area. Given that much of the extra renewables capacity in Scotland will go towards meeting the UK's renewable energy target, it is crucial that grid upgrade costs are not front-

loaded in full on the Scottish consumer base. Similarly, the costs of interconnector upgrades should be financed on a UK, rather than a purely Scottish, basis. SCDI is concerned that Ofgem's current consultation on Transmission Access and Losses suggests that the Regulator is in fact moving in the opposite direction. That paper proposes using price signals to encourage the location of generation near to consumption. Clearly, this will make it difficult for generators in Scotland to export electricity generated from renewable sources to the rest of the UK, particularly the south of England, with a corresponding negative impact on the attainment of the UK's renewables targets.

**SCDI recommends that:**

- **Government should share the investment costs in developing the transmission infrastructure to cope with a significant increase in renewable generation in Scotland for the benefit of UK consumers.**

**Promoting renewable energy**

17. As well as reducing greenhouse gas emissions, renewable energy can help to reduce the UK's reliance on imported sources of energy and promote a balanced supply. SCDI believes that Scotland can make a significant contribution towards meeting UK commitments but that the cost burden of doing so should be shared across the country.

18. Scotland's existing hydroelectric capacity can already meet up to 11% of Scottish electricity requirements. In its recent response to the Scottish Executive consultation on the Renewables Obligation (Scotland) (ROS), SCDI supported a Scottish target for electricity generated by renewable sources of 13% by 2003 and 18% by 2010. Recent initiatives, such as the announcement of ScottishPower's plans to build Europe's largest windfarm at Whitelee Forest, near Glasgow, show that some forms of renewable energy, notably wind power, are approaching commercial viability. This is due in part to support from the Government through the Non-Fossil Fuel Obligation (NFFO) and Scottish Renewables Obligation (SRO) schemes, and the opportunities afforded by the new Renewables Obligation and the ROS.

19. Given that renewable energy generation facilities are likely to be developed in areas where the resources are located, a considerable share of the UK's extra capacity will be generated in Scotland. A significant proportion of Europe's wind resource is located here and there is great potential in wave generation. Although there is little scope for the construction of new large hydro-electric plant in Scotland, Scottish and Southern Energy recently announced plans to refurbish its existing large HEP plants with a view to increasing their capacity. SCDI is pleased to note that its recommendation to include refurbishment of existing large-scale hydro plant, as well as new hydro of any size, has been included in the Scottish Executive's draft ROS scheme.

20. These factors will offer a considerable stimulus to the renewable energy market in Scotland and will give new business opportunities for energy suppliers and those involved in providing the hardware and technology. The manufacture of wind turbines already promotes employment in some particularly fragile rural areas of Scotland, such as the recent investment by Vestas in Campbeltown, providing 150 jobs. Increasingly, there will also be business opportunities in the maintenance and servicing of renewable generating equipment.

21. SCDI believes that Government should take into consideration the UK's current expertise in renewable technology. Government initiatives taken to promote renewable energy should be directed primarily at those areas where the UK has a lead. For example, there is a large body of marine-based engineering skills amongst Scotland's companies, arising mainly from expertise gained in shipbuilding and the oil and gas industries. These skills could be developed to develop a significant export industry in wave power, tidal flow turbine technology and offshore wind.

Appropriate funding from Government for research and business start-ups could act as a catalyst to develop global market leaders in this field.

22. The building of renewable capacity, especially wind turbines and small hydro schemes, raises legitimate concerns regarding the protection of landscape and wildlife, which must be balanced against the benefits of carbon-free energy and the creation of employment in fragile rural communities. SCDI welcomes the efforts that the Scottish Executive has made to resolve planning issues around the building of new renewables schemes, particularly through the publication of NPPG 6, on renewable energy. SCDI notes that, as a result, the success rate for planning applications for wind farms in Scotland is 66%, which is significantly higher than the equivalent figure of 11% for England and Wales (figures from Scottish Executive). SCDI would like to see this figure increase further.

**SCDI recommends that:**

- **The cost burden of developing renewable energy in Scotland, which will make a significant contribution to the UK's target of 10% of electricity generated from renewable sources by 2010, should not be borne by the Scottish consumer alone.**
- **Government should take steps to capitalise on existing expertise in renewable energy to create global leaders, especially with regard to the European Union's enlargement plans.**

**The nuclear gap**

23. Most of the scenarios set out in the RCEP Report for achieving a 60% reduction in the UK's greenhouse gas emissions involve a continuing role for nuclear power. Indeed, Scotland's nuclear generation industry makes a significant contribution to mitigating the effect of Scottish electricity demand on the emission of greenhouse gases. While the UK as a whole depends on nuclear power for 25% of its electricity supply, Scotland is significantly *more* dependent on this source of power. Almost 55% of Scotland's electricity is generated by its nuclear power stations at Hunterston B, Torness, with Chapelcross supplying the English market. It is expected that Hunterston B and Chapelcross are likely to close in the next 15 years, with Torness concluding its productive life a decade or so later. A future energy policy that had no place for nuclear energy would therefore have to find alternative sources of electricity. Given that nuclear power would be replaced primarily by fossil fuel generation, at least for the foreseeable future, this would represent a huge increase in the UK's carbon dioxide emissions, making it impossible to meet current and future emissions reduction targets. It is difficult to see how nuclear power can be removed from the generation mix if the UK is to play its part in tackling climate change.

24. Given the long lead-time for the construction of nuclear power stations, decisions regarding the industry's future in the UK must be made now. If the Government does decide that new plant should be built, this is likely to involve a Government commitment to support construction costs. Such a subsidy should be measured within the background of the increased cost of electricity generated from other sources as climate change measures increase the costs of carbon fuels.

25. Clearly, long-term nuclear waste management is an issue that concerns many members of the public. SCDI notes that the Department for Environment, Food and Rural Affairs (DEFRA) and the devolved administrations are now consulting on this issue. If the issue of waste management can be satisfactorily addressed, SCDI believes that nuclear power must play a key role in delivering emission-free electricity and contributing towards a balanced energy policy.

**SCDI recommends that:**

- **If the issue of waste management can be satisfactorily addressed, Government should make an early decision to invest in new nuclear plants, which will contribute towards a balanced energy policy and long-term continuity of supply.**

**Energy efficiency**

26. As the DTT's initial contribution to the current inquiry makes clear, demand management, including energy efficiency, will have a key role to play in future energy policy. As suggested earlier in this response, SCDI believes that the CCL should be implemented in such a way as to encourage energy efficiency in business and to promote new technologies designed to reduce carbon-based emissions from industry, such as is widespread in the electronics sector. In Scotland, the Scottish Energy Efficiency Office plays a valuable role. SCDI is investigating the possibility of a promotional campaign among its members, in association with SEEO, in order to change attitudes and deliver savings.

27. To achieve a reduction in emissions as suggested in the RCEP Report will require a huge culture change. "Business as usual" will not be enough. Experience has shown that businesses and consumers are willing to adopt more environmentally-friendly ways of doing things, but only through the judicious use of carrot and stick policies will Government encourage change. The impact of the fuel duty escalator on businesses and individuals in rural Scotland, where there is often no alternative to road transport, was a case in point. Previous SCDI submissions to Government have pointed out that the escalator was a blunt instrument, unfairly penalising those in remote areas that did not suffer from the problems of traffic congestion. Indeed, many in urban areas also felt that it was unfair given that there was no realistic alternative to road transport in place. The result has been a counterproductive hostility among members of the public to Government transport policy. Therefore, Government action on climate change should ensure that industry and individuals are given every assistance to reduce energy use *before* prices are forced up through instruments such as the CCL, rather than waiting until after price rises before investing. Such an approach is more likely to build widespread support and make future reductions more politically possible.

**SCDI recommends that:**

- **Government should devote significantly more resources to promoting energy efficiency in industry and the population at large to enable them to cope with future rises in energy prices.**

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