

SCOTTISH EXECUTIVE RESPONSE TO UK ENERGY REVIEW

June 2006

Scottish Executive Response to the UK Energy Review

The Scottish Executive welcomes the UK Government's decision to undertake a review of its strategy for achieving a secure low carbon energy future for the UK. Increasing evidence of climate change; changing circumstances in the oil and gas markets; rising energy prices – with the concern this creates for business and domestic consumers; and the renewed effort at UK and Scottish level going into tackling climate change, make this the right time to conduct that review.

Scotland accounts for around 9% of the UK's total energy consumption, but is rich in energy resources. The great majority of the UK's oil production and around half of its gas production comes from fields based in the continental shelf around Scotland, and mines in Scotland are responsible for around a quarter of the UK's coal production. Scotland is estimated to have 60 GW of renewable energy resources – the equivalent of three-quarters of the UK's installed electricity generating capacity. Around 20% of the electricity generated in Scotland is exported to the rest of the UK. Energy is therefore not just vital to keeping Scotland's businesses, hospitals and schools running; heating our homes; and transporting goods and people – energy also plays a key role in Scotland's economy. Scotland plays, and will continue to play, a key role in the energy economy of the UK.

Across the world we continue to see increased consumption of energy – related in particular to the strong economic growth of countries such as China and India. This has created stronger than expected demand for a range of basic commodities – such as oil, gas, and steel. China alone in the next few years is expected to build new electricity generating capacity sufficient to power Scotland a hundred times over. This extra demand for energy, linked to concerns in the market about the reliability of energy supplies from some regions, has led to increased worldwide energy prices. We continue to feel the impact of these worldwide trends in Scotland and the UK.

However, the impacts are not all adverse. The need to produce lower carbon energy is creating many new business opportunities and green jobs in Scotland and abroad – for example in renewable energy, in technology development and in the possibility of storing carbon dioxide in depleted oil and gas fields. The growth of China and India creates new opportunities for the sale of Scottish goods, services and expertise (for example in areas such as clean coal technology, renewables and oil and gas exploration and extraction). Higher oil and gas prices have contributed to a doubling of levels of exploration in the North Sea over the last two years – increasing the productive life of the UK Continental Shelf.

Clearly Scotland's issues and priorities for energy policy share a great deal of common ground with the rest of the UK. However there are differences in the opportunities available to Scotland – such as the huge renewable and fossil energy resources in and around Scotland. Scotland also has differences in infrastructure – which create both opportunities and risks. Large parts of Scotland's terrestrial and marine environment have exceptional natural heritage value; and also represent an important asset for tourism and recreation. A balance therefore needs to be maintained between exploiting our energy resources and protecting that environment. This reflects our commitment to the principles of sustainable development as set out in *Choosing Our Future*: achieving a sustainable economy; ensuring a strong, healthy and just society; through good governance, sound science and living within environmental limits.

The Scottish Executive recognises the importance and urgency of tackling climate change and the recently published Climate Change Programme *Changing our Ways* strengthens our commitment and actions across all sectors. It quantifies Scotland's equitable contribution to UK commitments for the first time through the Scottish Share approach and sets an ambitious target to exceed this in 2010 through carbon savings from devolved policy measures. The Executive's approach recognises the key role that energy policy must play in tackling climate change – and many of the measures suggested below are designed explicitly to reduce energy related carbon emissions.

Substantial areas relating to energy policy are devolved – such as the promotion of renewable energy and energy efficiency; consents for new electricity generating plant and transmission lines; planning and building regulations; environmental regulation; climate change; fuel poverty and transport. But overall UK energy policy is reserved to Westminster. In setting out our priorities for UK energy policy below we look to achieve a balanced overall policy environment which continues to assist and complement the delivery of the Executive's policy objectives in devolved areas – and to support a UK policy for energy which fully recognises the issues and opportunities in Scotland, whilst delivering on the objectives set out in the UK Energy White Paper "Our Energy Future – creating a low carbon economy".

In developing this response, our thinking has also been informed by the Executive's 2004 Framework for Economic Development in Scotland; our 2006 Climate Change Programme "Changing Our Ways"; our 2005 Sustainable Development Strategy "Choosing Our Future"; our 2003 renewable energy policy paper "Securing a Renewable Future" and the subsequent work of the Forum for Renewable Energy Development. Against this background, the issues we would highlight for UK energy policy in responding to the energy review are:

- **Increasing the proportion of renewable and low carbon energy within our overall energy mix - across all sectors including transport;**
- **Developing and sustaining Scotland's energy industries, establishing Scotland as a leading location for the development of renewable energy technology;**
- **Promoting greater energy efficiency;**
- **Ensuring security and diversity of energy supplies;**
- **Ensuring the rising costs of energy do not exacerbate fuel poverty or unfairly constrain Scotland's economic growth;**
- **Striking the right balance in developing Scotland's energy resources and infrastructure whilst protecting Scotland's natural environment.**

An effective overall energy policy must balance all these issues.

Increasing the proportion of renewable and low carbon energy within our overall energy mix – across all sectors including transport

The Executive believes that the development and introduction of renewable energy technology is a huge economic opportunity for Scotland, and one that can help improve the environment. Scotland is committed to making its contribution to combating climate change. Our recently published Climate Change Programme *Changing our Ways* sets out how we intend to achieve this – and one of the key mechanisms is encouraging the development of low carbon energy sources. The Executive and UK government have a range of measures already in place to promote the development of renewable energy. Given its huge wind, wave, and biomass resources, renewables development represents a significant opportunity for Scotland. The Executive has set more ambitious targets than the rest of the UK for renewable generation – in part reflecting Scotland’s large share of available renewable resources. We are well on the way to achieving our target of 18% renewable generation by 2010 and are working towards our target of 40% renewable generation by 2020. The comparable UK target is less ambitious than that for Scotland. **We believe renewable energy must play a vital and growing role in the UK’s future energy mix; we therefore invite the UK government to consider setting a more ambitious renewable energy target for the UK – though this must be balanced against the need to keep costs to consumers within acceptable bounds.**

In progressing towards these targets we wish to see a mix of renewable technologies used, particularly developing the role of marine and biomass technologies that have the potential to benefit Scottish business and industry as well as generating electricity. There are additional measures which we believe would assist the development of renewable energy from biomass and marine sources. We are currently considering a package of measures to promote the development of biomass. We are also committed to increasing incentives for marine energy; we have recently published a consultation paper seeking views on “banding” the Renewables Obligation (Scotland) to provide explicit, long term financial support to wave and tidal output. We are also considering the role of microgeneration and renewable heat as part of a holistic strategy to reduce carbon emissions resulting from the heating and lighting of buildings. We strongly believe that these technologies can play a major role in helping meet our targets for renewable generation and create economic benefit, as well as supporting more diverse and secure supply portfolios. **We invite the UK government to help achieve these aims by supporting our efforts to encourage the exploitation of Scotland’s wave and tidal energy resource.**

There is also a case for reviewing fiscal incentives to encourage renewables generation, perhaps using as a model the support given to the oil and gas industry when it was in its infancy. Measures worth considering could range from relief at the income stream level, the use of capital allowances, and measures to incentivise the growth of a manufacturing base in the UK for renewables.

Although electricity generated from coal emits the highest amounts of carbon per kilowatt hour of energy produced significant scope exists to reduce carbon emissions using new clean coal technologies. This has global significance given the very large amount of coal fuelled generating plant expected to be built in developing nations such as China over the next few years – and the amount of extra carbon emissions this could cause. The implementation of carbon capture ready high-efficiency coal technology at one or more of Scotland’s coal powered generating stations could help drive export market confidence in advanced Scottish

technologies, reduce carbon emissions, and make a major contribution to providing long term security and diversity of electricity supply. **We therefore invite the UK government to consider what more might be done to support the development of demonstrators of carbon capture ready high efficiency coal technology and we believe that there could be significant benefit in having one of these in Scotland.**

A further opportunity for reducing carbon emissions from coal is co-firing with biomass. However certain regulatory issues (such as a requirement to mix fuels at the generating plant) appear to be making co-firing less than straightforward in practice. **We invite the UK government to examine how regulations might be amended to facilitate co-firing of coal with biomass.**

Transport accounts for 29% of energy consumed in Scotland – and as Scotland is one of the most peripheral areas in Europe strong transport links are vital to its economy. But this need must be balanced against the carbon emissions produced from the transport sector. The UK government has already taken steps to increase the proportion of biofuels being used in the UK (and therefore reduce carbon emissions from transport energy use). We participate in the UK wide target for the uptake of biofuels, as part of the European Biofuels Directive, and have adopted the UK approach. Scotland also agreed that achieving this target would be through the Renewable Transport Fuels Obligation (RTFO). **We support these actions and invite the UK government to increase actions which promote lower carbon transport fuels and encourage new production facilities and supply networks for these fuels across Scotland and the UK.**

The legacy of infrastructure and known geology from oil and gas production places Scotland in a strong position to exploit opportunities to reduce carbon emissions through capturing carbon dioxide and storing it in depleted oil and gas fields and deep saline aquifers. Some studies estimate that in the North Sea these have the capacity to hold hundreds of years of carbon emissions from the UK. We welcome the proposed Millar field project at Peterhead – which would not only store carbon dioxide but enhance oil and gas recovery from this field – prolonging its productive life by up to 15 years. **We invite the UK government to encourage consideration of carbon capture and storage as a potentially cost effective method of reducing emissions, taking account of potential environmental impacts and the potential for enhanced oil and gas recovery, and to consider increasing its support of carbon capture and storage.**

Developing and sustaining Scotland's energy industries, establishing Scotland as a leading location for the development of renewable energy technology

Scotland is fortunate to be rich in natural energy resources:

- significant reserves of oil and gas remain to be extracted from the UK Continental Shelf
- large extractable coal reserves exist in South and Central Scotland;
- Scotland has the majority of the UK's wind and wave energy resources;
- large stocks of timber are available for use in biomass projects.

Clearly Scotland has a strong economic interest in making the most of these energy resources – but a balance needs to be maintained between exploiting our energy resources and protecting the environment.

The North Sea oil and gas industry is a mature and successful industry employing around 90,000 people – some 3% of the Scottish workforce. Encouraged by high oil prices, and regulatory measures taken by DTI, levels of exploration for new fields are higher than they have been for many years. The expertise of the Scottish oil and gas industry – and its supply chain – is known throughout the world. Scottish companies are being successful in selling their expertise in many areas of the world. New technologies are being developed and implemented in Scotland to reduce costs; increase ability to extract oil from fields in difficult conditions; and reduce environmental impacts. However the North Sea can be a more expensive environment for oil companies to operate in compared with other parts of the world. **Fiscal stability is vital to achieving continued investment in the North Sea. We therefore welcome the commitment that there will be no further tax increases on oil and gas production for the remainder of the current UK Parliament.**

The Executive works with the industry and UK government through PILOT to secure a long-term future for the oil and gas sector in the UK. The North Sea oil and gas industry has an ageing employee profile in some sectors, and parts of the industry have reported difficulties in recruiting employees with the right skills. The Sector Skills Council (Cogent) are currently analysing what skills gaps exist in the industry. The Executive will work with the industry and education/training sectors to address any skills gaps identified.

As mentioned previously an opportunity exists to develop and demonstrate lower carbon power generation at Peterhead power station. A commercial consortium have proposed adapting this station so that it burns hydrogen generated from natural gas and re-injects the carbon dioxide it generates into the depleted Millar field to enhance oil and gas recovery. This innovative proposal would demonstrate these technologies working together for the first time in order to deliver electricity with the carbon captured and stored - re-using expertise and infrastructure in the North Sea – with the possibility for exporting these approaches and technologies to other parts of the world in the future.

Scotland currently accounts for a quarter of the UK's coal production. The main use for coal extracted in Scotland is for electricity generation – however coal emits more carbon dioxide per unit of energy than other types of generation. The future economics of coal generation (and therefore the market for domestically produced coal) fundamentally depends on the

price of carbon allowances under the Emissions Trading Scheme; the costs of meeting other environmental regulations; the price of imported coal; and the price of coal relative to other types of energy (critically the price of gas). As mentioned previously clean coal technologies offer a possible long term future for coal generation in the UK – and Scottish companies are among the world leaders in this technology. Carbon dioxide can be captured from flue gases from high efficiency coal plant and sequestered in depleted oil and gas fields or coal seams. China, and other developing countries, offer a significant and growing potential export market for these technologies. The industry believes however that their export efforts are hampered by the lack of full-scale plant demonstrating this technology. As stated previously we believe there could be significant benefits in having a demonstrator in Scotland – in terms of both reduced emissions and continued diversity of electricity supply.

The development of renewable energy resources also offers a tremendous opportunity for Scotland. The incentive offered to renewable generation through the RO mechanism has successfully stimulated the wind energy industry – well over a Gigawatt of renewable energy projects have been consented since January 2003. 32 windfarms have been built and are operational in Scotland. 14 more windfarm projects are under construction and 23 more have consent but have not yet started construction. We are therefore confident that we will achieve our target of 18% by 2010 and are already making good progress towards our aspiration for 40% of Scotland’s electricity coming from renewable sources by 2020. However, as reflected in our new Climate Change Programme, the Executive believes that diversity is important in Scotland’s renewable energy portfolio. So we are also investing in other renewable technologies – this includes biomass, offshore wind and marine energy. So far the Executive and its agencies have invested over £6 million in marine energy testing facilities at the European Marine Energy Centre in Orkney.

The future success of Scotland’s energy industries rests on our ability to develop and implement new energy technologies – particularly those that can then be exported to the rest of the world. Scotland already has some notable successes here. But we believe that marine energy presents a significant opportunity for Scotland and the UK to lead the rest of the world. **We therefore invite the UK government to consider what additional support measures need to be put in place to speed the development of a viable marine energy industry.**

In particular we would encourage the UK Government to look seriously at the advantages of the banded approach proposed for marine under the Renewables Obligation Scotland. There is an opportunity for the UK to take up this model more widely in order to reflect emerging technologies, so that there is consistency across the UK. **We invite the UK Government to ensure that any further support measures for renewables being proposed as an outcome of the current UK Energy Review complement the Executive’s innovative and practical proposals to bring on marine generation which have already been widely welcomed by the marine sector.**

The Intermediate Technology Institute (ITI) Energy and academic institutions in Scotland are making a significant contribution to energy related research. The Executive is providing £150 million over 10 years to ITI Energy to facilitate the flow of new technologies to market. ITI Energy’s current main areas of focus are research projects linked to mature oil and gas assets; low-cost renewables, energy storage, hydrogen technologies and future power networks. It has already expended £13 million on projects in these areas. **Given the critical importance of energy research we welcome the announcement on the development of a**

new National Institute for Energy Technologies. It will play a valuable role in further developing collaboration in research between the public and private sectors – and give additional focus to the use of existing research funding. Scottish institutions and companies will wish to play a full role in the new Institute.

Promoting greater energy efficiency

Demand for energy continues to grow across the world – including the UK and Scotland – with most of this energy coming from fossil fuels. This leads to increased carbon emissions and tends to drive higher energy prices. Improving energy efficiency is widely recognised as one of the easiest and most cost-effective means of reducing carbon emissions. Improved energy efficiency means industry and society achieves more with less energy – public services are delivered at lower cost, and fuel poverty is reduced. However it is not always clear that individuals and organisations fully realise the benefits that can be achieved through simple energy efficiency measures. The Executive funds initiatives in Scotland aimed at raising awareness and improving energy efficiency in the public, private and domestic sectors – often working with the Carbon Trust and the Energy Saving Trust. Hundreds of businesses in Scotland benefit every year from free energy audits and advice on how to improve their energy efficiency – resulting in estimated lifetime carbon savings of 270,000 tonnes in 2004. The Executive has provided £20 million for local authorities, health boards, and Scottish Water to invest in energy efficiency measures. New approaches in public procurement of infrastructure (such as hospitals and schools) can also be used to reduce the lifetime carbon emissions of buildings – through energy efficiency and renewable energy measures. **Whilst recognising the valuable work by both the Carbon Trust and the Energy Saving Trust we would encourage the UK government to examine the potential synergies and increased impact of creating a single organisation tasked with promoting energy efficiency and low carbon technologies across all sectors.** Our fuel poverty initiatives have provided central heating systems to over 64,000 homes and insulated almost 1 in 10 Scottish homes. Under the Energy Efficiency Commitment energy supply companies also make a useful contribution to the promotion of domestic energy efficiency measures. **We encourage UK government to consider directing the Energy Efficiency Commitment (EEC) more firmly towards fuel poor households and would welcome an opportunity for the Executive to have more influence over how EEC is targeted, for example to allow it to work more effectively with Scottish Executive-funded fuel poverty and energy efficiency programmes.**

There is more we can do - later this year we will publish Scotland's first energy efficiency strategy. However not all energy efficiency policy areas are devolved, with many standards set at UK level. **Against this background we invite the UK government to consider what additional energy efficiency measures could be adopted across the UK (such as energy efficiency standards for consumer goods, for example plasma screen TVs or 'standby' buttons) to cost effectively reduce carbon emissions.** Smart metering may be an effective way to further raise public awareness of what activities use the most energy in the home – and what changes in behaviour produce the greatest reduction in energy consumption. We therefore welcome the measures announced by the UK government to evaluate the costs and benefits of introducing smart metering – and to consider what measures would be required to encourage its widespread introduction. **We also suggest that UK government consider what measures could be put in place to actively promote the growth of Energy Services**

Companies – creating market mechanisms that incentivise energy suppliers and consumers to reduce energy consumption in buildings.

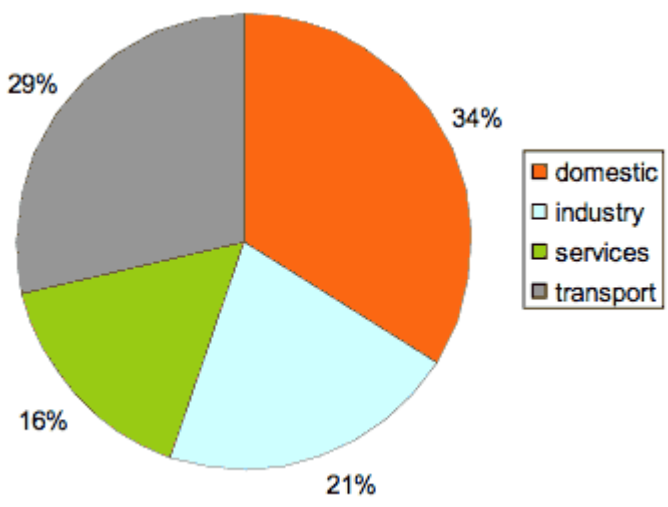
There is also scope to improve energy efficiency in the supply of energy. Local generation of electricity (including microgeneration) reduces electricity transmission losses – and combined heat and power (CHP) systems can operate at significantly higher efficiencies by reusing the waste heat from electricity generation. These technologies have a role to play alongside conventional generation. **In this area too we invite the UK government to consider what changes to the regulatory regime and energy infrastructure could assist the development of distributed generation.**

In April 2006, the Executive launched Scotland's National Transport Strategy (SNTS) consultation document and high among its goals is to promote modal shift and the use of new technologies and cleaner fuels. The SNTS seeks to challenge how best the Scottish transport sector can adapt to these goals and those of road traffic stabilisation measures and the opportunities they present. To help change transport behaviours which reduce energy use of fossil fuels and aid modal shift, we will encourage the wider use of travel plans across all sectors in Scotland and over the next two years will fund travel plan officers at Scottish Regional Transport Partnerships to take this work forward. As a result of that funding we expect that all Scottish local authorities will develop high quality travel plans, that progress will be demonstrated towards travel plans for all major hospitals and health centres, and a marketing campaign will be undertaken to promote the concept of travel plans to local authorities, health boards, Higher Education and Further Education institutions and other major employers within the region. In addition over 1800 road haulage drivers have been trained in Safe and Fuel Efficient Driving (SAFED). As a consequence, fuel efficiency gains of between 10 and 16% have been attained by participating drivers. Nearly 600 additional drivers will be trained in the current year. **The Executive supports the UK government's work on the Powering Future Vehicles Strategy and invites the UK government to do more to promote actions to encourage manufacturing production, and use, of new vehicle technologies and cleaner fuels (including hydrogen fuel cells) across the UK and Scotland for both domestic and public transport.**

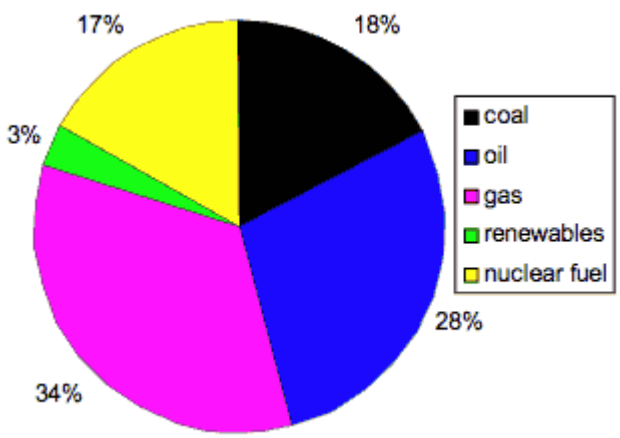
Ensuring security and diversity of energy supplies

Scotland plays a key part in the UK-wide market in energy for oil, gas, and electricity. The economic and social well-being of our country depends on secure long term energy supplies. The Executive believes that the key to achieving security of energy supply is achieving diversity of supply - for the UK and Scotland to use a broad range of different types of energy, and to obtain that energy from a diverse range of suppliers - both indigenous and foreign. The UK is currently dependent on petroleum products for 99% of transport energy use and gas for over half of its of its non-transport energy consumption. Depending on future relative prices of coal and gas it seems possible that market forces in the electricity industry could cause dependence on gas to grow. **We would ask the UK government to consider what additional regulatory measures are required in the electricity markets in order to best sustain and promote diversity in generation sources.**

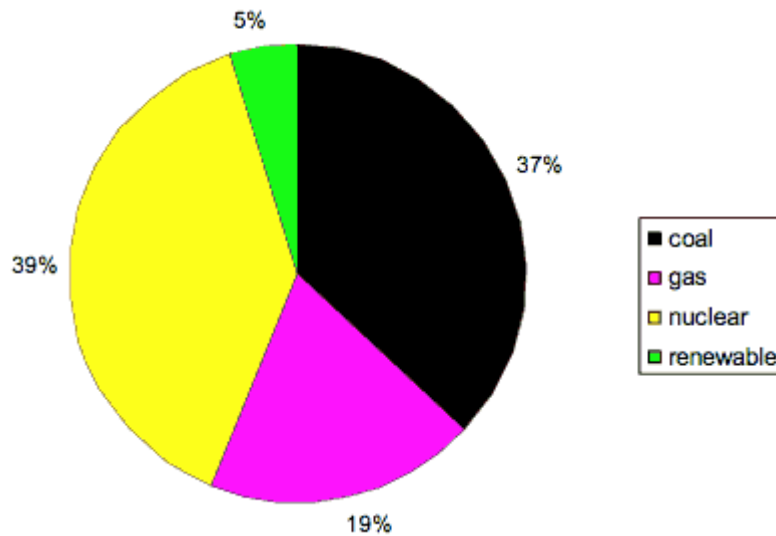
Energy consumption by sector – Scotland 2002



Energy Use by Fuel Type - Scotland 2002



Electricity generation by fuel type – Scotland 2002



The UK has also recently become a net importer of both oil and gas – although the North Sea has many years of production ahead of it - this means the UK needs improved gas and oil importation and storage infrastructure for the medium and longer term. **There are opportunities here for depleted gas fields in the North Sea to be used for gas storage, and we welcome efforts to encourage such development. We also support the UK government and regulator’s work with the European Commission to ensure free, open and fair competition in European energy markets – with a reduction in the power and influence of monopolistic state controlled energy companies across Europe.**

The UK is fortunate to have significant indigenous energy resources – oil, gas, coal and renewable sources (wind, marine, biomass, solar). **The Executive believes that the Energy Review should recognise the role of indigenous energy supplies as one important element of a secure energy supply mix.** Local generation of electricity, combined heat and power, and renewable heat should also have a role to play in improving security of supply – potentially reducing the UK’s high reliance on gas for heating. **We therefore invite the UK government to examine what mechanisms, regulatory or otherwise, would be appropriate to encourage their development and implementation.**

Long term security of electricity supplies in Scotland could be improved through a strengthening of the capacity of the land-based interconnector with England, and/or through additional sub-sea interconnection. The current capacity of the interconnector constrains the amount of electricity that Scotland can export or import. There is no guarantee that Scotland will continue to be a net exporter of electricity – this depends on future patterns of investment by the industry. And as Scotland significantly increases the level of its electricity coming from renewable sources a strengthened interconnector could provide some of the on-demand electricity required to back-up intermittent renewable generation. Similarly another future scenario – perhaps with significant development of marine resources - could see Scotland with a significant surplus of low carbon electricity available for export to the rest of the UK and Europe. Increased interconnector capacity would allow the rest of the UK to take advantage of this. **Strengthened interconnection will therefore make sense for Scotland and the UK under a range of future scenarios and we invite the UK government to**

continue to pursue this issue, including consideration of options for sub-sea cables to complement land-based transmission routes.

The security of Scottish electricity supplies also depends on continued investment by the industry in modernising existing generating capacity (often to ensure compliance with environmental regulations), and in building new generating capacity. The Executive remains concerned that the existing transmission charging mechanism acts as a significant disincentive to companies to invest in plant in Scotland. **We therefore invite UK government to re-examine the impact of the transmission charging regime, and to consider whether additional regulatory mechanisms are required to encourage suppliers to maintain levels of surplus generating capacity.**

Nuclear power has made a significant contribution to meeting Scotland's electricity needs for over 30 years. Two nuclear power stations – Torness and Hunterston - typically provide over 35% of electricity generated in Scotland. Hunterston B is currently scheduled for decommissioning in 2011, with Torness following in 2023. However the operational lives of both generating plants could be extended by 5 to 10 years – subject to decisions by British Energy (which owns and runs the plants), and consent from HM Nuclear Installations Inspectorate.

The building of any new nuclear power station in Scotland would require consent from Scottish Executive ministers under their powers under the Electricity Act 1989. The Scottish Executive has clearly set out in its Partnership Agreement that it will not support the further development of nuclear power stations in Scotland while waste management issues remain unresolved. Where decommissioning of nuclear power stations occurs, we will aim to use and develop best practice in decommissioning and high energy technologies.

Ensuring the rising costs of energy do not exacerbate fuel poverty or unfairly constrain Scotland's economic growth

High fuel costs can hamper economic growth by adding an additional cost to producers and upwards pressure on prices for consumers. However, there is no evidence that this is creating problems for Scotland in general - economic growth remains robust, unemployment low and prices stable. The economy is generally better able to cope with high energy prices than it had been during previous spikes in the 1970s as the energy intensity of production has fallen significantly during the period. Furthermore, a more flexible labour market and credible inflation targeting by the Bank of England have prevented high energy prices from leading to demands for higher wages which in turn would increase inflationary pressure. However particular industrial sectors and some remote rural areas – such as island communities – can feel the impact of higher energy costs disproportionately.

The price of energy in Scotland is fundamentally influenced by UK and world energy markets – whether that energy is indigenously produced or imported. Effective competition in the market – between different types of fuel, suppliers, and energy imports is one of the key mechanisms to ensure that energy prices in Scotland fairly reflect the reality of world energy markets. The Executive, in common with Ofgem and the European Commission, believes that competition is not always acting effectively or transparently in European energy markets – resulting in artificially raised prices in the UK (seen particularly in a number of spikes in the spot price of gas over the last few months). The Executive therefore supports action by regulators and the Commission to ensure that these markets function more

effectively in the future. It is also true that over reliance on a single fuel type (in this case gas) could make the UK vulnerable to changing supply conditions for that fuel – it is therefore important to preserve diversity in energy supply so that electricity generators and other major consumers can influence energy markets, and the price they pay, by switching from one fuel to another in response to market conditions and prices.

The price of energy has a significant influence on the viability of energy intensive industries and the number of homes in Scotland suffering from fuel poverty. For some industries – such as papermaking, chemicals, glass, ceramics, cement, and food – energy can form a significant element of their input costs. The competitiveness of such industries based in Scotland depends on their costs being similar to those experienced by their competitors based elsewhere in the world. It is therefore vital, as stated previously, that energy prices in Scotland fairly reflect world market conditions. Many companies, in these sectors and more widely, are working to bring down their energy consumption and costs – benefiting from the energy consultancy services delivered by the Carbon Trust on behalf of the Executive.

Energy prices can have negative social impacts, increasing the number of homes in Scotland suffering from fuel poverty. The Executive is committed to its target of eradicating fuel poverty as far as is reasonably practicable by 2016. Our Fuel Poverty Programmes are successful and have been well received across Scotland providing free central heating to over 64,000 homes and insulating a further 229,000. These policies have had a real impact upon fuel poverty; research shows that after participation 9 out of 10 of the fuel poor households who received the measures were lifted out of fuel poverty. However, rising fuel prices may well have a detrimental effect on progress made. It is estimated that every 5% increase in average annual domestic fuel prices results in another 30,000 homes in Scotland living in fuel poverty.

In Autumn 2004 the Executive urged fuel supply companies to introduce social tariffs to protect their most vulnerable customers and recently re-iterated calls for action in light of recent heavy price increases. **We invite the UK government to further progress the development of social tariffs and also to encourage the development of initiatives (such as the Home Heat Helpline) where companies work co-operatively to protect vulnerable households.**

We also welcome Ofgem's consideration of vulnerable customers in its current supply licence review and hope to see an emerging balance between regulation and voluntary measures which will best protect vulnerable households. **We also invite the UK government to ensure that full use of Fuel Direct payment is facilitated where appropriate and that the Department for Work and Pensions works closely with the managing agents of fuel poverty programmes to ensure all applicants receive benefit entitlement checks.** In addition we believe the relatively harsh winters in Scotland should be taken into account in considering the future level of Winter Fuel Payments in Scotland.

For new buildings the Executive is committed to Scotland having the highest standards in the UK for the thermal insulation of buildings. A review of the energy standards with a view to meeting this commitment is well underway. Public consultation began in March 2006 and it is intended that implementation of the resulting revisions will be by May 2007. Early indications are that if the proposals are implemented they will deliver carbon savings in the region of 18-25% for new dwellings and 23-28% for new non-domestic buildings. In most

cases these new-build proposals have the capability to deliver the best carbon savings of any standards in the UK.

The European Performance of Buildings Directive also presents opportunities for energy conservation improvements. Later this year the Executive will consult on proposals for implementing those Articles where compliance has still to be achieved.

Local generation of electricity, transfer of heat from industrial processes to other users, microgeneration and combined heat and power production clearly have a role to play in reducing energy costs. Through ensuring that fuels are used more efficiently they can help reduce the price of energy used by industry and supplied to consumers. **The Executive therefore invites UK government to examine whether reuse of heat, and encouraging Combined Heat and Power schemes (including regulatory measures) could act as an effective means both of delivering more affordable energy prices to consumers and of helping competitiveness, particularly for energy-intensive industries.**

Striking the right balance in developing Scotland's energy resources and infrastructure whilst protecting Scotland's natural environment

Scotland is fortunate to be rich in energy resources – however these resources often lie in environmentally sensitive areas. The benefits brought by the development of energy resources need to be balanced against the potential environmental impact that such development might have. Sustainability is a key aspect of the Executive's approach to economic development. Major energy infrastructure developments can attract significant opposition, for example the proposed Beaully-Denny transmission line upgrade and some – though by no means all - windfarm proposals. A range of planning and regulatory measures ensure that development proposals receive full and fair scrutiny - and interested parties are given opportunity to have their views considered. The time taken to complete such procedures can be frustrating for developers – but given the long operational life of energy infrastructure full and fair scrutiny is a necessary part of ensuring that Scottish society is satisfied that such developments deliver a net benefit to the nation. The Executive is currently reviewing its renewables planning guidance contained in National Planning Policy Guideline 6. The Executive will carry out a full public consultation on proposed revisions in the coming months.

