SUBMISSION FROM THE CONFEDERATION OF UK COAL PRODUCERS

The Confederation of UK Coal Producers (CoalPro) represents member companies who produce over 90% of UK coal output and a similar proportion in Scotland. CoalPro is not opposed to the development of any form of energy but is opposed to an over-reliance on any one form of energy. CoalPro is pro-coal.

CoalPro is pleased to be able to submit evidence to the Scottish Parliament’s Economy, Energy and Tourism Committee’s inquiry into Scotland’s energy future, “Determining and delivering Scotland’s energy future”. This evidence considers the market for coal in Scotland and the UK as a whole, the reserve base and coal production prospects before addressing the specific issues on which the Committee seeks evidence.

The Market for Coal

In recent years the market for coal has been strong. Total UK consumption has averaged some 60m tonnes a year with some 50m tonnes a year at power stations. Coal provides about a third of the UK’s electricity demand, a proportion which rises to half at certain times in winter. Coal has generally been cheaper than gas in recent years.

In Scotland there has been strong demand from the two coal-fired power stations with additional demand from industry and for housecoal.

Power station consumption is likely to fall somewhat over the next few years as a result of the closure of those power stations which are opted out under the Large Combustion Plants Directive (LCPD). Also the price of carbon may result in some move back to gas depending upon the relative movements in underlying fuel prices.

In Scotland, the existing Cockenzie power station will have to close by 2016 under the LCPD but this is subject to any investment that may be made to enable the station to comply after 2106.

UK coal production has fallen to between 16m and 17m tonnes a year currently. Whilst there is likely to be some increase in this level of output (see below), and whilst the overall market may decline, total UK demand is likely to continue to substantially exceed indigenous production under any likely scenario.

Whilst renewable generation will increase dramatically over the next few years, not least in Scotland, it is inherently intermittent and fossil fuel generation will continue to be required as essential base load back-up and to meet daily and seasonal peaks in demand. Coal and gas will thus retain an important ongoing role in meeting the need for a secure supply of electricity on demand. To avoid an overdependence on gas, there needs to be an ongoing role for coal. This will particularly be the case in Scotland if the existing nuclear power stations are not replaced.
CoalPro accepts that the future for coal-fired generation in the UK and in Scotland has to be low carbon. Investment in increased efficiency (supercritical and ultra-supercritical boiler technology) and co-firing with biomass will reduce carbon emissions but in order to reach the near-zero emissions that are required, carbon capture and storage (CCS) is essential. Indeed, investment in higher efficiency is an essential precursor for CCS due to the energy penalty associated with the latter. It should be noted that CCS will also have to be applied to gas if emissions reductions targets are to be met. Fuel switching to unabated gas offers no solution to either security of supply concerns or to meeting carbon emissions reduction targets. On the contrary, it will lock in a relatively high level of carbon emissions.

The Supply/Demand Balance

With a continuing strong market and declining UK production, imports have steadily increased to over 40m tonnes a year. 70% of the UK’s imports come from South Africa and Russia, with Russia the largest supplier. Russia now provides more coal to UK power stations than is supplied by the indigenous industry. There are concerns about continued availability of coal from these sources. There is an increasing demand for coal for electricity generation within Russia in order to release more gas for export. South African coal can just as easily be sold to the booming Asian markets as it can to Europe.

Because of emission limits under the LCPD, and because UK coals on average have a relatively high sulphur content, some imports of low sulphur coals have been necessary, including to Longannet and Cockenzie power stations. A greater proportion of UK coal-fired generating capacity is now being equipped with flue-gas desulphurisation (FGD) including at Longannet. This will significantly reduce the need for imports on sulphur grounds. However, all UK and Scottish production can be readily disposed of even with past sulphur constraints.

The Coal Reserve Base

The total amount of “coal in place” in the UK is enormous. However, the term reserves only has meaning in an economic context. The price of coal is determined by the international market. Only that proportion of the total amount of coal in place that can be produced and sold profitably at prices that can compete with international supplies has meaning in terms of any assessment of reserves. This is a moveable feast.

Up until 2004, international coal prices had for many years moved in a range of $30 to $40 per tonne delivered to a North West European port. Since then, along with other energy prices, there has been a dramatic increase. The international price rose to over $200 per tonne by June this year, since when it has fallen back slightly to between $180 and $190 per tonne.

This rise in the international price has transformed the prospects for UK coal production and significantly increased the volume of UK reserves that are “economic” as described above.
It should be noted, however, that mining costs have also risen substantially, as they have for all minerals throughout the world.

For surface mined coal, the ratio of overburden to coal at which it is economic to extract has increased. Some deep mines where access to the reserves has been retained have re-opened or are in the process of reopening. There is a real prospect of a brand new coking coal mine in South Wales (international coking coal prices are even higher).

However, in theory, any change in the international price will change the level of economic reserves, and the situation is extremely volatile. Essentially, a potential investor will need to be assured that prices will remain sufficiently high for a sufficiently long period of time to ensure that he receives an adequate return if the substantial investment required for new deep mine capacity is to be justified.

In Scotland, the volume of reserves that can be economically extracted by surface mining will have increased. With respect to closed deep mines, access to the reserves remains at Longannet but the workings and the access are waterlogged and an expensive recovery operation would be necessary prior to the investment needed to restart production. In the 1970s and 1980s, British Coal identified several prospects for new deep mines, a small number of which are in Scotland. It will be for potential investors to decide, against the background of higher international prices, whether the investment required to reopen abandoned or open new mines can generate an adequate return.

**Coal Production**

UK coal production has declined to a level of between 16m and 17m tonnes a year, about half deep and half surface mined. Production in Scotland is running at about 6m tonnes a year, all surface. The decline in deep-mined output has been the more rapid but there has also been a decline in UK surface-mined output of some 60% since the peak of 21m tonnes in 1991.

The decline in deep-mined output has occurred essentially for economic reasons against a background, until recently, of low international coal prices. Surface mined output has also been affected by the economic background but also by difficulties in gaining access to economic reserves through the planning system.

With higher international coal prices, investment in existing and reopened mines should enable deep-mined output to increase to 10m tonnes a year or more, sustainable for some years. The opportunity also exists for an increase in surface-mined output, provided the reserves can be accessed, also to 10m tonnes a year or more, sustainable for several decades. There is a real prospect, therefore that UK coal output will increase to over 20m tonnes a year, with a contribution from Scotland in excess of the present level of 6m tonnes a year.
Issues on which the Committee seeks evidence

I now turn to the three key issues on which the Committee is seeking evidence in conjunction with the other linked issues identified by the Committee.

1. **What type of future is needed in Scotland in terms of the production, distribution and more efficient use of energy, given the issues of price, security of supply and sustainable development?**

Scotland requires a diverse portfolio of energy sources to ensure security of supply, including coal. Fossil fuel generation will continue to be required as back-up for intermittent renewable generation and to meet peak loads. Given coal's relative abundance (including in Scotland), it is likely in the long run to be cheaper than gas. There are opportunities to increase coal production in Scotland.

The development and deployment of CCS will enable coal to be used to generate electricity with near zero carbon emissions using more efficient boiler technology. In the very long run, it may be that the development of a portfolio of renewable technologies, and technology advances in the storage of electricity and in concentrating renewable energy, will permit a future wholly based on renewables. In the meantime, perhaps over several decades, coal offers a relatively cheap, low-carbon sustainable bridge to that future.

2. **How can this future be delivered in Scotland and how will we meet all the various targets and obligations?**

Allowing market forces to continue to operate, allied with bespoke market oriented trading systems such as carbon cap and trade, will be a prime driver to the development of new technology at lowest cost. This may not, however, be sufficient on its own and there remains the potential for unintended consequences and perverse outcomes.

Incentives for the development and deployment of new technologies may be appropriate provided these are not open-ended either in size or longevity. Such incentives are already being applied to renewables. They may also be appropriate for the deployment of CCS.

Market forces and targeted incentives will foster developments at lowest cost. But there can be no getting away from the fact that Scotland’s energy future, as with everywhere else, will be more expensive than hitherto either for the consumer or the taxpayer, or both.

3. **What decisions need to be taken, by when and by whom to deliver on Scotland’s energy future?**

Enormous investment will be required over the next two decades first, to replace and modernise the ageing energy infrastructure and, second, to develop and deploy a range of low-carbon energy technologies. At the
individual investment project level, the myriad decisions necessary can only be taken by individual investors.

It is the role of government at all levels – European, UK, devolved administration, local – to set the framework within which these investment decisions are taken so that desired outcomes are achieved. There is always the potential in these circumstances for unintended consequences and perverse outcomes. The framework thus needs to be flexible and constantly reviewed.

An example is the European Union’s Emissions Trading Scheme. By putting a price on carbon this is a useful instrument to encourage low-carbon technologies. But the price is uncertain and is likely to vary. Even then, any one price will tend to favour one technology as the most economic at that price. It may favour fuel switching from coal to gas at the expense of CCS (with the result of long-term carbon lock-in), it may favour CCS over renewables or vice-versa when both are needed, or one renewable technology over another.

Government decisions are thus necessary to stimulate the development and deployment of new technologies at different times. Action has already been taken over renewables. Urgent action if now necessary on CCS. The UK Government’s competition for a single CCS project is welcome but too limited and too late. If the Scottish Government can go further, this would be most helpful.

What is clear is that Scotland’s energy future will be more expensive with serious implications for fuel poverty. Targeted help for those worst affected may become essential. The extent of this will be minimised by ensuring that those technologies which are likely to be relatively low cost are developed. The temptation to pursue every low carbon technology, whatever its cost, should be resisted.

I now turn to the linked issues referred to by the Committee.

1) Which energy sectors offer the best prospects for economic growth and reduced carbon emissions, and how should those be secured?

Scotland has a natural advantage because of its renewable potential. Development of a portfolio of renewable technologies, whilst ensuring value for money, offers good growth prospects.

On a global scale, to address a global problem, it is clear that CCS will be an essential technology. This technology can be applied on a large scale, not just to power generation but also to other large carbon emitters such as oil refineries, petro-chemicals and cement production. There are considerable growth prospects which will be enhanced by developing the concept of a CO₂ grid for the Firth of Forth area.
There are now real prospects for a growth in Scottish coal production. Retaining coal in Scotland’s energy mix will be essential if this potential is to be realised.

2) What are the hindrances to determining and developing Scotland’s energy future?

Uncertainty is often cited as a hindrance but we live in an uncertain world. Uncertainty also offers opportunities for entrepreneurs. There are two separate questions here. It may not be sensible to attempt to ‘determine’ Scotland’s energy future. Maintaining the three fundamental, admittedly conflicting, pillars of security of supply, low carbon and low cost is an essential starting point but thereafter it may be best to allow market forces a primary, if not exclusive, role in determining the future.

‘Developing’ the energy future is a different question. Finance will always be a hindrance as it will always be limited and attention should therefore be directed towards best value for money.

Planning policy and its interpretation can also be a hindrance, whether it be in relation to windfarms, other forms of renewable or fossil generation or the development of new and replacement coal mining capacity. It is for the Scottish Government to set policy and issue guidance in a way which ensures a balance between local interests and wider considerations, but then also to ensure this policy and guidance is properly interpreted and applied. The reform of the planning system presently under way represents a good start.

3) What is needed in the short and medium term, particularly from the Scottish Parliament and the Scottish, UK and other governments (such as the EU), to deliver Scotland’s energy future?

Action has been taken at all levels on renewables. It may be that more is required to develop other forms of renewables and on grid connections, but a major expansion is under way.

More is needed on CCS. The EU has a plan for twelve demonstration projects but needs to develop a financing mechanism. The UK and Scottish Governments could do more in this area by ensuring that the UK develops more than one such project, including one in Scotland. The Scottish Parliament can exert pressure to this end.

Action will have to be taken to address fuel poverty sooner rather than later. This is difficult and will be costly and a series of measures represents perhaps the best approach including energy efficiency measures for deprived households.

A real threat to the future of coal-fired generation is now emerging in Europe. The proposed Industrial Emissions Directive includes measures requiring yet further reductions in emissions of, for example, sulphur dioxide despite the
fact that such emissions in the UK have been reduced by over 90% over the last half century. It also removes much of the flexibility available in the existing LCIPD. One must question whether such proposals represent unnecessary gold-plating.

The Scottish Parliament has a fundamental role to play in encouraging government to adopt sensible, measured, cost-effective policies. It should, however, resist the temptation to jump on every bus that comes along irrespective of the cost of the journey! Apart from anything else, this will afford no certainty as to the destination.

4) How can energy demand be reduced in Scotland?

CoalPro has no expertise in this area. However, the rise in energy prices is perhaps the most powerful incentive of all to reduce energy demand.

5) How can the energy sector deliver the kind of reductions in greenhouse gas emissions that the Scottish Government wants to see?

See comments above on renewables and CCS. Action is most urgent on CCS, particularly if there are to be no replacement nuclear stations in Scotland.

6) How can energy supplies be secured at a price which is affordable?

It has to be recognised that given the rise in fossil fuel prices and the level of investment in the energy infrastructure that is necessary, the price of energy supplies may become unaffordable for the fuel poor. Other action will be needed to address this problem. The Scottish Parliament should be wary of being seduced by windfall taxes on energy suppliers. These run the real risk of withdrawing funds needed to finance what will be an enormous level of investment.

7) How can economic benefits from Scotland’s energy industries and the development of clean technologies be maximised.

CoalPro is not competent to address this question other than superficially but facilitating an increase in Scotland’s coal production will provide new high-paid skilled jobs. A CCS project in Scotland will also have considerable economic spin off.

8) What are examples of best practice in Scotland and elsewhere, particularly focusing on low-carbon solutions and covering electricity, heat and transport?

CoalPro is not competent to comment generally. However, we would wish to point to the fact that the great majority of Scotland’s coal output is despatched to the customer by rail, and to draw attention to the development of a conveyor network to transport coal from a number of sites in Ayrshire to a railhead thus avoiding vehicular transport.