

COAL IN A BALANCED ENERGY POLICY

Policy Memorandum by the Confederation of UK Coal Producers (CoalPro)

Introduction

CoalPro represents member companies who produce over 90% of UK coal output. CoalPro is not opposed to the development of any other form of energy. CoalPro is pro-coal.

CoalPro believes in a balanced energy policy and is opposed to over-reliance on any single form of energy. In particular, CoalPro is concerned that within the next 20 years the UK will be dependent on gas for well over half of its electricity generating capacity and that up to 90% of that gas will have to be imported.

This memorandum sets out the issues for the future of electricity generation and coal production in the UK, and makes certain policy proposals.

Summary

Most of the UK's nuclear generating capacity will close over the next twenty years. The 9GW of coal-fired plant that has opted out of the Large Combustion Plants Directive will close by 2015 and there may be further closures thereafter as some plants reach the end of their lives.

Even with considerable effort and expense in replacement nuclear and renewable capacity, the UK will remain heavily dependent on fossil fuels. If deep cuts in carbon emissions are to be achieved, new fossil fuel generating capacity will have to be low-carbon. In an environment of regulatory uncertainty, new investment will be gas-fired by default because of low initial capital costs. This risks locking into expensive and constrained gas supply.

Low-carbon coal technology offers a more secure alternative. Investment in higher efficiency coal-fired plant and carbon capture and storage could reduce CO₂ emissions from burning coal by 85%. Long-term carbon allowances, as have been awarded in Germany, are needed for the former. For CCS, Government assistance may be required for demonstration plants.

Abundant world coal reserves offer significant security of supply and price advantages compared with gas. Indigenous coal enhances these advantages and the UK has several hundred million tonnes of reserves that can be economically extracted. Indigenous coal production also brings other substantial economic and employment benefits. The main impediment to UK coal production is being able to access these reserves.

For the deep mines, major investment to access reserves is necessary. If this is to be forthcoming, long-term contracts at prices which smooth out the vagaries of the international market are essential.

For surface mines, the presumption against in planning guidelines is slowly strangling the industry, exacerbated by the introduction of excessive, arbitrary buffer zones. Such restrictions do not apply to any other mineral. For the industry to be able to exploit the substantial reserve base available, the presumption against must be removed from, and the need for coal recognized in, planning guidelines.

Increases in the duty on off-road diesel have increased costs significantly. The duty does not apply to the international competition and represents double taxation. As with gas oil for electricity generation, coal production should be exempt.

CoalPro therefore makes the following policy proposals:-

- Long-term carbon allowances to stimulate investment in higher efficiency coal-fired generation.
- Government assistance for carbon capture and storage demonstration plants.
- A commercial environment for the UK's deep mines which will encourage investment to access new reserves.
- Changing planning guidelines for surface mines to remove the presumption against and arbitrary buffer zones, and recognise the need for coal.
- Exempting UK coal production from duty on off- road diesel.

The application of low carbon coal technology and the maximisation of indigenous coal production offers secure, clean and affordable energy for the long term.

Low-Carbon Coal Technology

Over the next twenty years, a significant proportion of the UK's electricity generating capacity will close as the opted out coal and nuclear stations reach the end of their lives. The problem may recede somewhat with life extensions to some of the AGR stations and because more coal-fired capacity has now opted in under the Large Combustion Plants Directive than at one time seemed likely. Nevertheless, significant new investment will be required.

Achieving the Government's aspiration of a 20% contribution to electricity generation from renewables by 2020 will be expensive for electricity customers and will require considerable effort in other directions. The same considerations apply to a replacement nuclear programme. Even if both are achieved, the UK will remain heavily dependent on fossil fuels for the foreseeable future and investment in new and replacement fossil fuel generating capacity will be required.

If the Government's longer term aspiration of a 60% cut in CO₂ emissions by 2050 is to be achieved, the investment in new or replacement fossil fuel generating capacity will have to address carbon emissions. Fuel switching from coal to gas alone will be wholly inadequate. In an uncertain world, compounded by longer term regulatory

uncertainty, all future investment will be gas-fired by default, primarily because of low initial capital costs.

Recent events comprehensively demonstrate the security of supply and price risks associated with an over-reliance on gas for electricity generation. As a consequence, coal-fired generation provided over 50% of UK electricity over the 2005/06 winter. The construction of new gas supply infrastructure may relieve some of the pressures. This will replace a European gas supply and price environment by one which is global. Similar investment is underway in the Far East, North America and elsewhere in Europe and there is no guarantee that a global environment will be more benign. The recent agreement by Russia to build gas pipelines to China further highlights the risks. In any event, the abundance of coal compared with gas reserves will inevitably lead to an ever-widening price differential in favour of coal over the longer term. Locking into gas by default will thus lead to reliance on expensive and constrained gas supply.

CoalPro recognises the difficulties of intervening in the market to “fix” shares for generation from particular fuels. There may however be merit on security of supply grounds for Government to maintain a watching brief to ensure that generation capacity based on particular fuels does not fall below a certain minimum. Market forces can then determine the actual fuel mix.

Investment in low-carbon coal technology offers a way forward which will both address carbon emissions and enable the UK to continue to make use of abundant world and the UK’s own significant coal reserves. Initially this will require investment in higher efficiency coal plant, either by the application of supercritical boiler technology to pulverized fuel plant (new or retrofit) or by new integrated gasification combined cycle (IGCC) plant. When combined with up to 20% of biomass in the fuel stock and feed water heating, these technologies can reduce carbon emissions from coal-fired plant to levels close to those from combined cycle gas turbine plant.

The next stage is to capture the carbon dioxide emissions from such plants and store them underground in either exhausting oil and gas fields to enhance oil and gas recovery or in deep saline aquifers. CO₂ can be captured from the flue gases at supercritical pulverized fuel plant, or at the pre-combustion stage at IGCC plants. 85% of CO₂ emissions can be abated in this way. Combined with biomass, the reduction can be even greater. IGCC plants are less well proven but offer the additional advantage that removal of the CO₂ at the pre-combustion stage provides a stream of hydrogen that can be used either for electricity generation or, in the longer term, as a replacement motor fuel. It is imperative to recognise, however, that the cost penalty associated with carbon capture and storage (CCS) means that investment in higher efficiency coal plant is a pre-requisite.

It may be that with the present relativity between coal and gas prices, investment in higher efficiency coal plant is competitive with new gas plant. Investors are unlikely to commit, however, in the absence of longer-term certainty. The most pressing problem is to provide regulatory certainty and, in particular, to make available long term carbon allowances beyond phase 2 of the European Union Emissions Trading

Scheme (EUETS) which itself has yet to be finalised and which will only extend to 2012.

The German government has made available carbon allowances for up to 18 years. This has stimulated investment in higher efficiency coal plant and a number of projects are now proceeding. A similar regime in the UK may well bring forward investment, particularly if it can be combined with a market scheme designed to provide a guaranteed minimum price for carbon. CoalPro urges the Government to introduce such a regime.

Additional instruments may be necessary to stimulate investment in CCS, whether from coal or gas plant. Whilst all the individual elements of the technology have been proven to some degree, there remain risks associated with combining them and Government assistance for a small number of demonstration plants, involving both coal and gas, may be necessary. The £35m available under the CATS strategy is unlikely to be sufficient. CoalPro asks the Government to provide additional assistance for demonstration CCS plants.

Development of low-carbon coal technology as set out above will minimise carbon emissions whilst avoiding the risks of over dependence on gas. All low-carbon technologies will be relatively expensive and it is not the place of this paper to discuss the costs of the various alternatives, which are both subjective and site-specific. However, general indications are that low-carbon coal technology is broadly competitive. It thus offers secure, clean and affordable energy for the long-term.

Indigenous Coal Supplies

World coal reserves are abundant. It is less well appreciated that the UK still has significant coal reserves that can be economically extracted at costs which will be competitive with the long run average of delivered world coal prices. These amount to several hundred million tonnes. The amount of coal-fired generation capacity that will be fitted with FGD means that there are no issues associated with the acceptability of indigenous production.

Coal offers numerous security of supply and price advantages compared with reliance on imported gas including the ability to stock large quantities. These advantages will be enhanced by including within the coal supply mix a significant proportion of indigenous production. Coal supplied from the UK offers security against the volatility of international coal prices, freight rates and exchange rates and a reliance on limited port capacity. Strains on a congested railway system are also reduced. Furthermore, some of the proposed investment in upgrading this rail and port infrastructure could be deferred or even eliminated completely. Imported coal also relies on extensive infrastructure in the supplying countries, the full economic costs of which in the case of Russia are not yet reflected in pricing, and results in increased transport-related carbon and sulphur emissions.

The main impediment to maintaining and increasing UK coal output is access to the significant reserve base at both deep and surface mines. Deep mines require periodic injections of capital to access new areas of reserves without which they will close prematurely. The necessary investment will not be forthcoming if coal supply

contracts are short term and subject to the vagaries of international prices. Within the past three years these have varied from \$30 per tonne up to \$80 per tonne and back to about \$60 per tonne delivered to North West Europe. Such a commercial environment is not “bankable” for such long-term capital intensive operations.

CoalPro urges the electricity generating industry and the UK Government to consider developing a framework which will enable longer term coal contracts to be agreed at prices which smooth out the volatility of international markets and which recognise the additional security advantages of indigenous production. Investment will then be forthcoming. In addition, CoalPro believes Government should consider tax credits or similar mechanisms to encourage operators to burn indigenous fuels at times when these are disadvantaged because of temporary low world prices.

The UK has several hundred million tonnes of coal reserves that could be extracted by surface mines. The greatest impediment to production is the difficulty in obtaining planning permission. Planning guidelines in England apply a presumption against approval for surface coal extraction unless strict conditions are met. No such presumption applies to any other form of development and specifically any other mineral extraction. It is illogical, discriminatory and absurd at a time when indigenous fossil fuel production is declining.

This presumption against has recently been introduced in Scotland. At the same time, the new Scottish guidelines introduced a 500m buffer zone as opposed to the 200m that applies to other minerals. This will sterilise large areas of reserves and eliminate a number of potential sites completely. Draft planning guidelines in Wales propose a 350m buffer zone which will have the same effect. Arbitrary fixed buffer zones are not based on any objective criteria and should be replaced by ones which are assessed on site-specific criteria for each application.

CoalPro also believes that a number of mineral planning authorities in England are not taking proper account of the planning considerations that enable the presumption against to be overcome. There are other sterilisation issues where applications to extract coal are refused, only for the site to be subsequently developed, or where coal extraction in conjunction with a wider development is refused. This is the antithesis of sustainability.

This competitive ratcheting up of requirements across the devolved administrations and amongst mineral planning authorities is strangling surface coal production and is wholly irresponsible against a background of restricted and expensive energy supplies. Surface coal production has fallen from 18m tonnes a year to 10m tonnes a year over the past decade. CoalPro urges the Government to remove the presumption against and arbitrary buffer zones, to ensure that mineral planning authorities properly apply planning guidance and to ensure, on energy policy grounds, that a similar regime applies throughout the UK.

Planning guidelines for some other minerals require a landbank of future permissions to be maintained so that the nation’s need for essential materials can be met. There is a market for coal in the UK substantially in excess of indigenous production and import capacity for internationally sourced coal is tight. Over the 2005/06 winter coal-fired generation provided over 50% of UK electricity and indigenous coal was a

major component of supply. Without this level of generation, electricity supply difficulties would almost certainly have occurred. There is therefore a demonstrable need for indigenous coal production which should be taken into account as a material consideration when applications for surface mines are considered. CoalPro urges the Government to adjust planning guidelines accordingly and ensure that this applies across the UK.

If an adequate landbank of permissions can be built up, surface coal production could be increased to 15m tonnes a year providing additional indigenous energy production at a time of constrained and expensive imported supplies. A landbank of permissions would provide a strategic reserve of coal in the ground which could be used to supplement indigenous energy production as required.

Surface mines are also subject to Government imposed cost pressures that do not apply to the UK's international competitors. Recent increases in the duty on off-road diesel have increased costs significantly. The level of duty is well above the European minimum and does not apply to non-European competitors. When considered in conjunction with the climate change levy, this amounts to double taxation. Gas oil used for electricity generation is exempt for this reason. CoalPro asks the Government to apply a similar exemption for diesel used in the production of coal, virtually all of which is used for electricity generation.

Indigenous coal production also offers other substantial economic benefits in terms of employment, tax revenues and the balance of payments. These benefits will be lost if access to the UK's coal reserves continues to be impeded. Any further reductions in employment risks losing the industry's skills base.