

Call for evidence on Carbon Capture and Storage

This submission to the Call for Evidence on Carbon Capture and Storage (CCS) is on behalf of CoalImp – the Association of UK Coal Importers.

CoalImp represents major coal users (including most of the coal-fired generators in the UK), rail companies, ports and other infrastructure operators in the coal supply chain. The twenty members (listed on the CoalImp [website](#)) account for the handling, transportation and use of the majority of imported supplies into the country, in turn representing the majority of all coal supplied to the electricity industry

Individual CoalImp members with a strong interest in CCS (and with appropriate levels of technical knowledge and expertise) will be submitting detailed evidence, answering the complete list of questions posed. This evidence concentrates in more general terms on the case for CCS based on the UK and international background.

Summary

Coal resources are super abundant and are spread across all continents. Proven world coal reserves amount to around 1,000 billion tonnes, equivalent to 130 years supply at current rates of usage, with the largest reserves in the USA and China, which are also the largest users.

Coal is the world's fastest growing fuel reflecting its affordability as well as its abundant supply across all continents. It is the cheapest fuel generally available worldwide and consumption is expected to catch up with oil before the end of the decade. The world has 1.3 billion people with no access to electricity – resolving fuel poverty will rely heavily on coal.

Climate change is a global phenomenon and requires a global solution. The UK accounts for less than 2% of global emissions, and the EU only 11%. The largest emitters are the largest coal users with the largest reserves – there is no solution to climate change which does not include a solution for coal.

The UK still has an opportunity to take a leadership role with CCS, and DECC's own analysis shows it will be economic alongside other low-carbon technologies. Government must now press ahead with its CCS demonstration programme on coal, without any further slippage, as well as using the mechanisms in the Energy Bill to enable more coal CCS projects to come to fruition. This would mean that the UK can continue to benefit from the world's most abundant and low cost fuel at the same time as leading the way to a future where coal is utilised in a clean and fully sustainable manner.

1. Background

- 1.1. Coal resources are super abundant and are spread across all continents. Proven world coal reserves amount to around 1,000 billion tonnes, equivalent to 130 years supply at current rates of usageⁱ, with the largest reserves in the USA and China, which are also the largest users.
- 1.2. The UK currently relies on coal for around 40% of its electricityⁱⁱ – up to 50% at peak times. Coal-fired electricity is the most secure and flexible low-cost capacity on the system; and with coal less than half the price of gas it is a key element in managing energy bills, fuel poverty and UK energy competitiveness.
- 1.3. UK coal resources amount to around 4½ billion tonnesⁱⁱⁱ, and the UK has good access to imported supplies through well-developed port and rail infrastructure. Over 10,000 people are directly employed in the coal sector, including production, utilisation and infrastructure, with a similar number in jobs dependent on the sector. International coal supply complements indigenous supply with the security, flexibility and quality attributes of a highly liquid and diverse international market.

2. Affordable Coal

- 2.1. Coal is the world's fastest growing fuel reflecting its affordability as well as its abundant supply across all continents. Coal accounted for almost half the increase in global energy use over the past decade^{iv} and in 2012 had the largest share of primary energy demand since 1970^v. It is the cheapest fuel generally available worldwide and consumption is expected to catch up with oil before the end of the decade^{vi}. The world has 1.3 billion people with no access to electricity^{vii} – resolving fuel poverty will rely heavily on coal.
- 2.2. UK consumers have been protected from the full impact of high prices of gas-fired electricity by the diversity of our power generation system, which can still benefit from the reliability, flexibility and relatively low cost of coal, the world's most abundant fuel. As electricity customers become increasingly concerned about their bills, the affordability of coal is a key factor in keeping energy costs under control.
- 2.3. The potential availability of shale gas may provide the UK with another important indigenous source of energy, but is unlikely to have the dramatic impact on prices seen in the USA. The Energy and Climate Change Committee has said that shale gas production in the UK could enhance our energy security and boost tax revenues, but it is too early to say whether it will reduce energy prices^{viii}. Energy and Climate Change Secretary Ed Davey's has similarly warned that development of UK shale gas resources will not lead to an era of cheap gas^{ix}.

3. The Need for Sustainable Coal

- 3.1. Climate change is a global phenomenon and requires a global solution. The UK accounts for less than 2% of global emissions, and the EU only 11%^x. The largest emitters are the largest coal users with the largest reserves – there is no solution to climate change which does not include a solution for coal.
- 3.2. Such a solution exists in the form of Carbon Capture and Storage (CCS), which must therefore be a key mitigation technology. According to the IEA, without CCS, limiting a rise in global temperature to 2°C will be that much more difficult, and up to 70% more costly^{xi}.
- 3.3. Carbon savings from unilateral UK action (such as the Carbon Price Floor) can be illusory. High electricity prices will damage the UK economy despite so-called 'green growth' and will export carbon emissions and jobs. Imported goods from China and elsewhere rely on coal-fired electricity. The Committee on Climate Change estimates that, whereas reductions of around 20% in production emissions over the last two decades has limited growth in the UK's carbon footprint, taking into account imported goods, the UK's carbon footprint has actually increased by 10% or more^{xii}.
- 3.4. The UK still has an opportunity to take a leadership role with CCS, and DECC's own analysis shows it will be economic alongside other low-carbon technologies^{xiii}. CCS is not only a key technology for carbon mitigation; it also provides an export opportunity for companies with an early-mover advantage. Proximity to huge CO₂ storage potential under the North Sea also makes the UK an ideal place to develop this technology.

4. Carbon Capture and Storage in the UK

- 4.1. It is vital that we develop the technologies to ensure coal is used in a clean and fully sustainable manner as part of a secure and diverse energy portfolio. By providing low cost, reliable electricity, coal can already address several of the most pressing issues facing the UK energy sector. CCS will mean it can also be low carbon. Government should give a clear statement of longer-term ambition for coal with CCS, with commitment to appropriate support mechanisms.
- 4.2. CoalImp welcomed the Government's decision to move forward with two CCS projects in the UK including the coal-fired White Rose Project in North Yorkshire^{xiv}. This decision represents a positive step forward for CCS development in the UK. It is important that the infrastructure supporting these demonstration projects, for example the pipeline, is designed to have the capacity and functionality to allow the development of other projects as part of a cluster. Policy and financial support will also be needed in due course for CO₂ infrastructure based on other CCS clusters.

- 4.3. A recent DECC report has predicted that CCS has the potential to compete effectively with other low-carbon forms of energy by the 2020s^{xv}. This report underlines the importance in demonstrating coal with CCS, and the potential to secure a role for coal in the future low-carbon energy mix.
- 4.4. Alongside the directly funded demonstration projects, further CCS projects should be developed under the UK's Electricity Market Reform, as well as nuclear and renewables technologies.
- 4.5. Government must now press ahead with its CCS demonstration programme on coal, without any further slippage, as well as using the mechanisms in the Energy Bill to enable more coal CCS projects to come to fruition. This would mean that the UK can continue to benefit from the world's most abundant and low cost fuel at the same time as leading the way to a future where coal is utilised in a clean and fully sustainable manner.

References

- ⁱ [IEA – Coal Information 2013](#)
- ⁱⁱ [DECC Energy Statistics](#)
- ⁱⁱⁱ [Coalpro/Coal Authority](#)
- ^{iv} [IEA – World Energy Outlook 2012](#)
- ^v [BP Statistical Review 2013](#)
- ^{vi} [IEA – Medium-Term Coal Market Report 2012](#)
- ^{vii} [IEA – World Energy Outlook 2012](#)
- ^{viii} [Energy and Climate Change Committee – The Impact of Shale Gas on Energy Markets](#)
- ^{ix} [Ed Davey – Guardian Interview November 2012](#)
- ^x [IEA – CO2 Emissions from Fuel Combustion 2012](#)
- ^{xi} [IEA – Technology Roadmap: Carbon Capture and Storage](#)
- ^{xii} [Committee on Climate Change - Reducing the UK's Carbon Footprint and Managing Competitiveness Risks](#)
- ^{xiii} [CCS Cost Reduction Taskforce – Final Report](#)
- ^{xiv} [DECC - Preferred Bidders Announced in UK's £1bn CCS Competition](#)
- ^{xv} [CCS Cost Reduction Taskforce – Final Report](#)