Pecyn dogfennau cyhoeddus

Y Pwyllgor Amgylchedd a Chynaliadwyedd

Lleoliad:
Ystafell Bwyllgora 3 - Senedd

Dyddiad:
Dydd Mercher, 21 Mawrth 2012

Amser:
09:30

Cynulliad Cenedlaethol Cymru
National Assembly for Wales

I gael rhagor o wybodaeth, cysylltwch â:

Alun Davidson
Clerc y Pwyllgor
029 2089 8639
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Agenda

1. Cyflwyniad, ymddiheuriadau a dirprwyon

2. Ymchwiliad i bolisi ynni a chynllunio yng Nghymru - Tystiolaeth ar ddal a storio carbon a thechnoleg glo glân (09.30 - 11.00)

(Tudalennau 1 - 26)
E&S(4)-12-12 papur 1
Mark Picton, Rheolwr Gweithrediadau Masnachol, Gorsaf Bwer Aberddawan

E&S(4)-12-12 papur 2
Dr Michael Gandy, Rheolwr Cynllunio, Celtic Energy Ltd

Yr Athro Jim Watson, Cyfarwyddwr, Sussex Energy Group, Prifysgol Sussex

3. Papurau i'w nodi (Tudalennau 27 - 30)

Cofnodion y cyfarfod a gynhaliwyd ar 1 Mawrth
E&S(4)-09-12 cofnodion
E&S(4)-10-12 cofnodion

4. Cynnig o dan Reol Sefydlog 17.42(ix) i benderfynu gwahardd y cyhoedd o'r cyfarfod ar gyfer eitemau 5 a 6 (11.00)

Sesiwn breifat

5. Ymchwiliad i'r achos busnes dros un corff amgylcheddol - Llythyr

drafft i Weinidog yr Amgylchedd a Datblygu Cynaliadwy (11.00 – 11.15)

6. **Ymchwiliad i bolisi ynni a chynllunio yng Nghymru – Materion sy'n codi (11.15 – 11.30)**

7. **Blaenraglen Waith (11.30 – 12.00)**

Environment and Sustainability Committee

E&S(4)-12-12 paper 1

Inquiry into energy policy and planning in Wales – Evidence from RWE Npower CCS project, Aberthaw power station

HEADLINE POINTS

- RWE recognises that the management of CO_2 emissions is a key strategic issue.

- Coal continues to have an important role to play in the UK and Global energy mix, subject to addressing the emissions issues. CCS demonstration and commercialisation are therefore important in finding any global solution to climate change given the level of usage of fossil fuels for the foreseeable future.

- There has been a failure by the EU and UK Governments to engage with the public and to put forward credible pan-European and national CCS strategies. CCS has therefore failed to take off.

- The next round of competition for CCS should be aligned with EU New Entrant Reserve (NER) allowances.

- There is no economic case for the development of new coal plant in the medium term particularly with the imposition of the Emissions Performance Standard for new plant. The result is that CCS demonstration plant are unlikely to materialise.

- The lack of clarity around the support mechanisms available under the Electricity Market Reform in the UK will further delay investment.

- The focus for CCS should remain on coal plant rather than being extended to gas-fired plant.

- We are willing to work with other industry and Governmental departments in order to reduce the risks around CCS development.

DETAILS OF KEY POINTS

- The management of CO_2 emissions is a key strategic issue facing the RWE organisation as a whole and CCS is a key part of this strategy over the long term (the other key element being efficiency upgrades in the short-medium term).

- We still believe that coal has an important role to play in the UK and global energy mix if emissions issues can be addressed by parallel CCS development and see ourselves as potential contenders for future CCS competition rounds (provided the economics stack up and the policy framework is right).

- Failure to engage the public on CCS has resulted in significant opposition and delay in the implementation of the legal framework for CO_2 storage and transportation. This has led to the withdrawal of support for 'on land' storage in the Netherlands and Denmark. At the same time, in Germany it has been a case of 'too little, too late – a draft law was approved by the federal cabinet after earlier drafts had been blocked by states sceptical of CCS.

- There has been a failure to put forward a credible national CCS strategy. Furthermore, development in the UK has been stymied by an inadequate approach to risk sharing on demonstration projects and a poorly handled UK approach to funding of the first round carbon capture competition. Investment in CCS demonstration projects will require a mixture of funding from public funds and developers. However it is important that there is a sharing of risks between Government and developers (with developers taking on usual project risks) or it is unlikely that investment in projects will be forthcoming.

- The timing of the next round of competition for funding of demonstration projects in the UK should be aligned to the timing of competitions for funding from the EU New Entrant Reserve (NER) allowances. This is a scheme whereby 300 million allowances under the EU Emissions Trading Scheme are set aside and sold off to provide funding for innovative renewable and CCS technologies. The NER funding is available until 31st December 2015 to help stimulate the construction and operation of CCS demonstration but places very challenging timescales on such plant.

- There is no economic case for the development of new coal plant in the medium term, therefore it is unlikely that large scale, full chain CCS demonstrators will result from the next competition. EPS policy in the UK adds greater regulatory risk and uncertainty. The imposition of an Emissions Performance Standard (EPS) as a future requirement for plant fitted with CCS once the technology has been proven will introduce additional risks to the developer and deter investment in new coal fired power stations. Furthermore it will not provide any further emission reductions as the EU ETS cap already provides the cap on EU emissions.

- There has been no clarity to date around the Electricity Market Reform framework and how it will impact CCS projects. This will further delay any investment in the UK. The scale of demonstration plant required is a considerable increment compared to current pilots. Whilst we agree that funding – either through a levy raised on consumers (the CCS levy) or through general public funding – will be necessary for the demonstration phase. We do not believe this funding should be extended to support retrofitting of further units or new build once the technology has been proven. A single mechanism, such as low carbon obligation, should be considered as part of the Electricity Market Review to delivering a diverse mix of low carbon generation.

- The priority for CCS should be coal as its application on gas-fired plant is significantly more expensive per tonne of CO_2 abated and any

suggestions of future requirements for CCS on gas plant could act as a deterrent for investment in gas-fired generation, which has a critical role to play in the transition to a low carbon economy. The focus should be on demonstrating the technology on coal-fired power stations which remains the global priority. Given this context it is not clear what benefits there would be from demonstration on gas-fired plant. In addition it is likely to lead to significantly higher demonstration programme costs for the consumer.

- RWE npower would be willing to explore the potential for a more collaborative approach with other players and Government to reduce the scale of individual financial and regulatory risk exposure as a basis for participating in a post-combustion CCS demonstration project

CCS COMPETITION

- RWE npower withdrew from the earlier round of the UK CCS competition in November 2009. Instead we pursued our own strategy for a 3MW carbon capture pilot plant at Aberthaw. RWE continues to build experience in carbon capture technologies across the group through a number of carbon capture pilot projects in the UK, Germany and the USA. More detail of the Aberthaw project is given below.

ABERTHAW PILOT PROJECT

- The CO_2 capture pilot project to be located at Aberthaw is part of a broader RWE Power and RWE npower complementary post-combustion capture (PCC) programme. Aberthaw is likely to be our only high load coal plant in the UK between now and 2015. However it is not located close to the likely early CO_2 storage locations in the UK which are likely to be in the North Sea.

- The 50 tonnes CO_2/day (3MWe equivalent) CO_2 capture pilot plant at Aberthaw is part of a phased investigation into PPC technologies in the UK that started with the 1 tonne CO_2/day capture rig at Didcot (commissioned in 2008).

- Project overview:
    - Joint project between Cansolv Technologies Incorporated, part of Shell Global Solutions and RWE npower with both parties contributing to overall costs – we selected Cansolv through a rigorous assessment of the technologies
    - The plant modules were fabricated in China during the first half of 2011 and were delivered to Aberthaw at the end of August. Since then we have been progressing with installation and commissioning work.
    - Dialogue with the Environment Agency about permitting the process was very positive and a Variation to the Aberthaw Environmental Permit allowing operation of the pilot plant was granted in June 2011.
    - As well as CO_2, the plant will capture SO_2.
    - The pilot plant is interfaced with the main station so that the flue gas can be taken and returned to the main flue gas system.

The return gases, once stripped of amines, pass through the FGD and to atmosphere as they would have done without being diverted through the pilot plant
    - A test programme has been agreed with Cansolv which will see the pilot plant operate for at least 8,400 hours to gather data.
    - Data from Aberthaw will be used in the development of the future RWE Group CCS strategy.

- We see the benefits of developing and operating the pilot plant for our business as:
    - Enabling us to understand the viability, effectiveness, reliability and costs of the PCC technology at a pilot plant scale,
    - To begin to understand the operations and maintenance implications of this technology and the associate integration issues,
    - To gain the necessary knowledge to be an informed buyer of CCS technologies in future'
    - To help us understand the environmental and planning implications so that we are able to be more informed for future decisions.

WELSH GOVERNMENT
INQUIRY INTO ENERGY POLICY AND PLANNING IN WALES

Submission by Celtic Energy Ltd

March 2012

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INQUIRY INTO ENERGY POLICY AND PLANNING IN WALES

Submission by Celtic Energy Ltd

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Summary of Submission

Climate change affects us all. If we believe in the principles of Sustainability, we must act now to address climate issues that can be tackled realistically. Sustainability of course, embraces the needs of the present, and if Wales is not to be prejudiced in terms of economy and future aspirations, the Welsh Government must view what can be done in a UK sense and act in a manner that would not cause energy poverty for the Principality. We all rely on energy for our homes, industry, transport and our future. Our needs must of course be balanced against the effects upon the Environment.

The Welsh Government's aspiration of a 3% reduction in emissions of CO_2 year on year is an eye catching objective, but the coal burning power stations should not bear the brunt of that reduction when other options associated with transport and lifestyle are available. There would be no gain for Wales if the Power Station was to close and with it the coal industry. The job losses would be immense and the social implications would be profound for the economic well being of the country.

Celtic Energy Ltd is the largest coal company in Wales and its output serves the energy market. 40% of annual production is destined for power generation at Aberthaw Power Station, 30% is used in Industry, 15% in domestic markets and 15% is exported to Europe again for energy needs. Without those markets, the company would not exist. The same is true for other coal mining companies in Wales such as Miller Mining, Tower Regeneration, Unity and Walter Energy for example. In total, Celtic Energy employs 375 people but it is well known that at least twice that number rely in some way upon the industry for employment. Thus, Celtic Energy alone supports some 1000 jobs. The other mining companies swell that jobs total to over 2000 people. The Coal industry is therefore a major employer in Wales with those jobs totally reliant on coal being a part of future energy requirements.

Celtic Energy fully supports the concept of a balanced energy generation industry, one which embraces all forms of renewable generation, and one containing places for traditional fuels such as coal, oil, gas and nuclear. There is no doubt that the pressure for reduction in CO_2 emissions is great and the momentum is unstoppable. For fossil fuels, there is no escaping the conclusion that Clean Coal Technology and Carbon Capture and Storage are the ways forward. Removing fossil fuels from the energy mix is simply not a realistic or sustainable option.

Celtic Energy welcomes the efforts by RWE in reducing emissions of CO_2 and that company must be applauded for the way in which it has been proactive in installing biomass as part of the fuel mix. However, the fact that coal is used in large quantity at the power station is not a matter that can be dismissed. The power station is the largest contributor to electricity needs of South Wales. Thus coal remains a vital part of the required energy mix, and will do so for the foreseeable future. Although imported coal is used, the indigenous coal industry is vital to the security of the supply of fuel.

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1 Introduction

1.1 Celtic Energy Ltd welcomes the opportunity to submit evidence to the Inquiry, and hopes that the contribution will be of assistance. This submission will concentrate primarily on the role of coal in the energy mix and the importance of the industry in South Wales. In making the statements, Celtic Energy would wish to emphasise that it is not in the business of energy generation as such, but is a supply company to the power generators.

1.2 Celtic Energy is the largest coal company in Wales, producing a mix of coal with 40% destined for power generation at Aberthaw Power Station, 30% for use in Industry, 15% for domestic household markets in the United Kingdom and 15% for export to Europe.

1.3 The company was formed at the beginning of 1995 out of the privatisation of British Coal. Richard Walters acquired the company in 2004.

1.4 The company currently operates three surface mines and a central Washery from where all coal produced is dispatched to market by rail and road. The company employs approximately 375 people, and supports at least double that number in service industries, transport and the communities.

2 Focus of this Submission

2.1 The main points that Celtic Energy would wish to make to the Inquiry centre on the importance of indigenous supplies of coal for Aberthaw Power Station and how that generating station is key to the economy of south Wales.

2.2 Celtic Energy is fully aware of the complex nature of energy demand and supply in the United Kingdom, and the need for balance of generation against environmental impacts. Sustainability is the key to ensuring that the UK plays its part in global issues and that it meets its own requirements in an acceptable and environmentally defensible way. Wales must be a part of that debate.

2.3 Celtic Energy wishes to see a balanced energy generating industry and whilst it concentrates its business on the mining and supply of coal, it recognises and supports the important contributions associated with other sectors.

3 UK Energy Policy Issues

3.1 In essence, the key objectives for UK Energy Policy as set out in the 2009 White Paper are:

- To cut the UK's CO_2 emissions by some 80% by 2050;
- To maintain reliable energy supplies;
- To promote competitive markets;
- To ensure all homes are adequately and affordably heated.

3.2 Subsequent interim targets for reduction in "greenhouse gas" emissions of 34% by 2020 have been added. Celtic Energy supports the four goals, but maintains that whatever is achieved in the UK in terms of emissions must be viewed in the context of European and Worldwide achievements. It would be an unnecessary penalty for the UK economy if efforts affect commercial competitiveness. That is an important point for Wales, and for this Inquiry to address.

3.3 The UK Government faces some difficult issues with regard to Energy Policy. Although it has stated that it will pursue many green policies for energy generation, it has implied that there is a place for coal in future energy supply in its backing for clean coal technology providing that emissions targets are met. That aim has been demonstrated by the support for carbon capture and storage in relation to new coal fired power stations. The extent of the contribution that coal can make to UK energy supply will ultimately depend partly on policy but also upon investment by energy generators and industrial users. Suppliers of coal such as Celtic Energy will respond to the situation accordingly.

3.4 On 27th June 2011, the Government published its first Annual Energy Statement in which there was a clear confirmation of the targets and the need to address the serious issues of carbon reduction and renewable energy. Equally there was recognition that up to at least 2050, there would be an on-going need for fossil fuels in the energy mix, although the precise role would be determined by a range of issues including carbon capture.

3.5 On 18th July 2011, the House of Commons debated and approved the six National Policy Statements for Energy wherein it was recorded that *"The UK economy is reliant on fossil fuels, and they are likely to play a significant role for some time to come. Most of our power stations are fuelled by coal and gas"* (Overarching National Policy Statement for Energy EN-1, paragraph 2.2.5). Elsewhere, it was emphasised that *"It is critical that the UK continues to have secure and reliable supplies of electricity as we make the transition to a low carbon economy"*, and that there is *"a diverse mix of technologies and fuels so that we do not rely on one technology or fuel"* (paragraph 2.2.20).

3.6 It is clear from the Statements that in order to meet emission targets, *"the electricity being consumed will need to be almost exclusively from low carbon sources. Contrast this with the first quarter of 2011, when around 75% of our electricity was supplied by burning gas and coal. The UK must therefore reduce over time, its dependence on fossil fuels, particularly unabated combustion. The Government plans to do this by improving energy efficiency and pursuing its objectives for renewables, nuclear power and carbon capture and storage. However, some fossil fuels will still be needed during the transition to a low carbon economy"* (paragraphs 2.2.22 *et seq.*)

3.7 These are powerful statements that must be taken into account at all levels of central and devolved Government, and in all relevant sectors of the energy industry.

3.8 The Overarching Policy Statement also confirms that *"Energy underpins almost every aspect of our way of life. It enables us to heat and light our homes; to produce and transport food; to travel to work, around the country and the world. Our business and jobs rely on the use of energy. Energy is essential for the critical services we rely on – from hospitals to traffic lights and cash machines. It is difficult to overestimate the extent to which our quality of life is dependent on adequate energy supplies. The major types of energy that we are for generating electricity – fossil fuels, renewable energy and nuclear; for heating and industry – fossil fuels used directly; and for transport – oil based fuels"* (paragraph 3.3.4).

3.9 In that regard, the policy statement repeats that *"There are benefits of having a diverse mix of all types of power generation. It means we are not dependent on any one type of generation or one source of fuel or power and so helps to ensure security of supply. In addition ….fossil fuel generation can be brought on line quickly when there is high demand and shut down when demand is low, thus complementing generation from nuclear and the intermittent generation from renewables. However, until such time as fossil fuel generation can effectively operate with Carbon Capture and Storage (CCS), such power stations will not be low carbon"* (paragraph 3.3.4).

RECOMMENDATION No. 1: *Wales cannot deal with climate change on its own and must avoid placing itself at economic disadvantage by trying to do so. Plans for a broad portfolio of energy supply over a realistic timescale must be adopted in line with UK objectives.*

4 Welsh Government Position on Energy Policy

4.1 Although Energy policy is not a devolved issue, the Welsh Assembly Government has emphasised that its position on energy provision "*focuses on five … important strands; energy efficiency, renewable energy, energy infrastructure, encouraging the production of electricity from new clean coal power stations and lowering carbon dioxide emissions."*

4.2 In the Welsh Government's Energy Policy Statement there is stated objective to work towards a low carbon economy by 2050. Whilst many of the proposals in that document concentrated on the renewable energy sector, there can be no getting away from the reality that for the short and medium terms at least, coal will continue to be burned for power generation at Aberthaw Power Station and will continue to be used in large quantities at CORUS (now TATA) steelworks. Domestic use of low volatile coal such as anthracite will also continue.

4.3 In Mineral Planning Policy Wales, the Welsh Government states that "*where UK coal is available and the generators continue to use it, UK coal contributes to energy diversity and supply. But there are important environmental and amenity issues that require very careful consideration"*. That position is repeated in the Advice Note MTAN2 published in January 2009.

4.4 Some people may argue against the concept of global warming, but there is no escaping from the consequences of climate change. Any examination of the statistics will demonstrate that change is indeed happening within short timescales. The argument perhaps lies in the underlying causes. The First Minister has made it plain that the Welsh Government is committed to tackling the causes and consequences of climate change. That commitment is to a 3% year on year reduction in greenhouse gas emissions. We must be absolutely clear that before taking potentially draconian action, we understand the cause of the problem. If decisions on energy policy in Wales are to have relevance, they must be based on sound scientific and environmental principles. For example, there is little merit in a politically acceptable Green Wales if the Welsh economy suffers hardship due to economic isolation.

RECOMMENDATION No. 2: *Any target must be derived from full analysis of objectives and consequences. If 3% is realistic, then it should be supported by facts and analysis. Otherwise, it may be viewed as a potentially damaging political and economic aspiration.*

5 European Energy Policy

5.1 Coal has a major share in European energy supplies and as with the UK, accounts for approximately one-third of the EU electricity production. Whilst aiming for secure, sustainable and competitive energy supplies, the EU also has set the objective of drastically reducing carbon emissions from coal-fired power stations. Alongside strict environmental legislation, investment and research in clean coal technologies, especially CO_2 capture and storage (CCS), are seen as vital.

5.2 The EU is likely to put in place an ambitious energy policy covering the full range of energy sources from fossil fuels (oil, gas and coal) to nuclear energy and renewables (solar, wind, biomass, geothermal, hydro-electric and tidal), and that is to be broadly encouraged in terms of emission targets. However in doing so, the EU must recognise that changes take some considerable time to implement. For example, the UK relies to a large extent on existing coal-fired power generation and sufficient replacement energy supply cannot be commissioned in the short term. Thus notwithstanding the fact that the EU's Large Combustion Plant Directive (2001/80/EC) will have a major impact on UK coal fired power generation by 2016, there is an expectation of some UK Government relaxation in attitude towards emissions in order to avoid power cuts and severe economic disadvantage.

5.3 Given that position, Celtic Energy is of the opinion that there will undoubtedly be a role for coal in UK energy policy in traditional and new electricity generation over the next 20 years at least. The fact that coal burning power stations contributed slightly more than 50% of the nation's electricity supply in recent winters, demonstrates that coal has an important role in power generation now and for the immediate future. Quite simply, there are no realistic and available alternative sources of energy, or energy saving procedures at present with sufficient capacity to meet the contribution made by coal.

RECOMMENDATION No. 3: *Any attempt to phase out existing coal generating capacity in Wales unnecessarily must be resisted in the best interests of the economy of Wales.*

6 The need for Coal

6.1 UK Energy Statistics show that in general, coal contributes approximately 30% of the UK electricity generating system. However, during periods of exceptionally cold weather, for example the winters of 2005/2006, 2009/2010 and 2010/2011, that contribution is reported to have risen to over 50%. The situation in Wales mirrors that trend and Aberthaw Power Station is critical to the economy of South Wales in the avoidance of power outages. Few other sources of energy can react in such an immediate way to demand.

RECOMMENDATION No. 4: *Coal is vital for energy generation in Wales and is the most flexible fuel for meeting peak demand. Its contribution should not be underestimated or under-played.*

7 Security of Energy supply

7.1 Celtic Energy would acknowledge the Government's announcement that a new generation of Nuclear Power Stations will be constructed to meet a proportion of future energy demand. At the same time, the announcement appeared to diminish the prospects of power generation from a barrage across the Severn Estuary. Although there was no specific mention of coal-fired generation in the announcement, it has to be the case that there is support for other forms of power generation in the interim, including coal fired power stations. Events since, for example in Japan, may well have affected that announcement profoundly.

7.2 Although there has been a decrease in demand for coal in recent years, in 2009 overall consumption of coal in the United Kingdom was almost 49Mtonnes. Consumption in power generation accounted for 82% of that total. It is self evident that every tonne of coal that cannot be produced indigenously is a tonne that has to be imported. In 2009, imports of coal were very heavily concentrated amongst a small number of supplying countries with almost 50% coming from Russia. For power generation, 77% of the coal consumed was imported. With such dominance and proportions now and for the foreseeable future, the effects of interruption of supply would be catastrophic to power generation in the United Kingdom.

7.3 As recognised in EU and UK Energy policy, reliable energy supplies are essential. International supplies of oil and gas have been subject to concern in recent years, and doubts about coal supply have also been expressed. Generally however, coal has been and will continue to be a reliable source, certainly that produced from within the United Kingdom. The UK is blessed with abundant coal resources and whilst exploitation may be unwelcome in some instances, there is no justification for placing greater controls on coal mining than for other mineral activities or on other energy related developments upon which the country relies. The situation in South Wales is of equal importance. Equally, the move towards alternative forms of generation must be placed in the context of ensuring continuity and security of supply.

RECOMMENDATION No. 5: *This Inquiry should ensure that nothing prejudices the security of energy supply to the UK and particularly to Wales. Support for extant generating capacity is vital and development of new forms of generation should only be introduced in a phased manner.*

8 Carbon Footprint

8.1 Exploitation of coal reserves close to where they are needed clearly avoids the environmental costs associated with long-distance transportation. Shipping costs alone are considerable and when added to the effects of overland transport to ports for loading and from ports of entry to power stations or other industrial and domestic markets, the implications for the environment are huge. The proximity principle is fundamental to sustainability and is part of policy and guidance at all levels of government whether national, devolved or local. There is no doubt that the principle is applied across UK society already in terms of food supplies, waste disposal, biomass supplies and the supply of other minerals. Applying it to coal supplies is no different since it would accord directly with principles of sustainability. Shifting the burden is not a reasonable, responsible or justifiable option.

8.2 A central issue of this Inquiry is of course reduction in greenhouse gas emission particularly Carbon Dioxide. This is a key objective of Sustainability and has formed the major thrust of global efforts to address Climate Change. Whatever the merits of such global arguments, it is incumbent on everyone to make efforts to reduce carbon footprint. Although there have been significant changes in Energy generation in recent years with the moves towards renewable sources and less reliance on fossil fuels, coal nevertheless remains an important source of energy for power generation, heavy industry and household use.

8.3 Celtic Energy as a supplier of coal, has no direct role in controlling emissions from the burning of that fuel, but is responsible for those arising from the mining itself. Use of heavy plant and all other technologies will have some limited direct or indirect contribution to CO_2 emissions, but no more than civil engineering in general. However, whilst the demand for coal remains, it is an inescapable conclusion, that if coal sources in South Wales were not to be part of that supply, some other source would take up the shortfall. Undoubtedly, that would have to be an imported source.

8.4 It has been estimated from UK Government (DEFRA) data that the carbon footprint of the average person in the UK is approximately 10 tonnes per annum (*Source: Warwick University*). This figure embraces all uses of carbon. In 2009, the UK produced 574.6Mtonnes of CO_2 equivalent, of which 480.9Mtonnes (almost 84%) was CO_2 itself. According to the Department of Energy and Climate Change (report dated 25th March 2010), between 2008 and 2009, there were significant decreases in CO_2 emissions from all the main sectors resulting primarily from a significant fall in energy consumption, combined with fuel switching from coal to nuclear for electricity generation. As the UK economy contracted during 2009, this resulted in an overall reduction in demand for electricity, together with lower fossil fuel consumption by businesses and households. The energy supply sector is the main contributor to the 9.8 per cent decrease in CO_2 emissions between 2008 and

2009. Within this sector, power stations were the main contributor to the overall decrease in emissions. In 2009, CO_2 emissions from power stations, at 151Mtonnes, accounted for just under a third of all CO_2 emissions. Between 2008 and 2009, emissions from electricity generation fell by 13 per cent as a result of less coal but more nuclear power being used for generation.

8.5 It is estimated that the carbon emissions of transporting coal from Russia and South Africa represent nearly 9% and some 4.5% respectively of the carbon emissions from burning it (*Source: Coalpro - Evidence to Margam Extension Public Inquiry 2009*). The equivalent figure for UK production is 0.1%. In addition, the transport of coal by sea involves the use of high sulphur marine diesel. Those figures may be general but would apply to any long distance transport modes. Hence, not only is there an economic incentive for using indigenous coal, there is an indisputable environmental advantage as well.

8.6 Calculations can be made with confidence that coal mined in south Wales, and used locally at Aberthaw Power Station would result in significant reduction in CO_2 emissions. If the comparison is made with coal sourced in Russia, the reduction would be approximately 8-10% whilst for coal from South Africa, the reduction would be 4-6%. Those reduction figures equate to huge tonnages of CO_2.

RECOMMENDATION No.6: *Carbon footprint must be considered in relation to supplies of fuel for all forms of energy use. Achievement of reduction targets should take into account the advantages of indigenous supplies, and not have a greater impact upon one fuel than any other.*

9 Indigenous Supplies of Coal

9.1 It is self evident that any change in energy policy that promotes a decreasing use of coal as a feed stock for generation would have a profound effect upon the indigenous industry, and consequently the economy of those communities from which the labour market is drawn and which rely upon the industry.

9.2 RWEnPower, the operator of Aberthaw Power Station, requires approximately 2.75 million tonnes per year in order to meet demand for electricity. At present approximately half of the coal used at the power station can be supplied locally (i.e., from sources within South Wales). The generating company stressed in its evidence to the Welsh Affairs Committee Inquiry into Energy in Wales (published in July 2006) that: "*Of particular concern to us is the possibility that opportunities to extend the productive life of the Welsh coal field could be frustrated by changes in the planning*

regime for coal mines. Having invested massively in the future of Aberthaw ….. we would not wish to see the supply of locally-mined coal dry up, forcing us to increase imports from around the world".

9.3 Celtic Energy has noted the recent developments at Aberthaw with particular interest. The co-firing of the station with biomass since 2008 confirms a commitment to more sustainable uses of fuel, and the announcement in late 2009 that a carbon capture plant is under serious consideration is further evidence of the future use of coal in a manner consistent with increased environmental safeguards. As a major supplier of coal to Aberthaw, Celtic Energy regards the recent statements and developments as powerful evidence of the need for South Wales coal. It is an inescapable conclusion that significant and irreparable damage could be caused to the local and national economies if the generating company has to resort to increased imports with all the inherent impacts upon environment, transport, logistics and sustainability, and of course concerns about security of supply. Electricity generating companies have a commercial interest in mitigating risk by having available a diversity of sources of coal supplies, and coal from South Wales would provide a secure source.

9.4 Other major coal producers in South Wales are equally reliant on Aberthaw for their future operations. These include Miller Mining at Ffos-y-fran, Tower Regeneration Scheme, Unity Mine, and Walter Energy at Aberpergwm.

RECOMMENDATION No.7: *Indigenous coal supplies are vital for Aberthaw Power Station and the energy consumption of the UK. Indefensible hurdles and barriers should not be put in the way of such supplies. The economy of South Wales relies heavily upon the Power Generators and the fuel suppliers.*

10 Industrial and Domestic Coal Markets

10.1 Energy requirements at the TATA steelworks at Port Talbot are also significant. Whilst the coking coal requirements of that plant are met largely by imports, future options are seriously linked to the sinking of a new deep mine at Margam. Again, changes in Energy policy towards a lower carbon threshold could have serious implications for the development of the mine. A significant amount of coal other than coking coal is used in the steel making process and much of that is sourced in South Wales. The effects of policy change on these supplies should not be overlooked. In that regard, a statement from TATA in relation to the Nant Helen Remainder surface mine site demonstrates that point. "*Supplies of high quality anthracite …. have met our expectations both in terms of quality and price and the coal replaces material that would otherwise be sourced outside of the United Kingdom and indeed Europe, typically Australia. The short and efficient local transport*

links from mine to steel works are clearly a further attraction on various levels including lower CO_2 footprint and security of supply".

10.2 Anthracite also occupies a specialised section of Energy requirements in the UK. Apart from its particular niche market in domestic boilers, it is also used in power generation blends. Thus demand for anthracite continues to be high. Almost 92% of that demand was met from sources within South Wales, with Celtic Energy contributing approximately 90% of the UK supply. Clearly any changes in energy policy would have an effect on all anthracite markets, and if those changes were to promote the phasing out of solid fuel boilers for example, the impact upon domestic consumers and the South Wales coal industry would be profound.

10.3 Coal from South Wales also makes a significant contribution to cement manufacture. Without such secure supplies, the industry could suffer to the point of potential closure due to foreign imports.

RECOMMENDATION No. 8: *The Inquiry should be aware of the importance of coal usage outside the generation of electricity. Industry and domestic markets are just as relevant in assessment of emissions, and unrealistic controls on emissions may have a dramatic effect upon the economy of Wales.*

11 Clean Coal Technology (CCT) and Carbon Capture and Storage (CCS)

11.1 It is a matter of basic chemistry that when coal is burnt as a fuel source, the gaseous emissions generated will be carbon dioxide primarily with subordinate quantities of sulphur dioxide, nitrogen dioxide and other chemical bi-products. These emissions have negative impact upon the environment, and efforts are being made worldwide to find ways of reducing such emissions without necessarily leading to avoidance of the fuel itself. Thus coal, gas and oil derivatives are being subject to enormous amounts of research to find technologies by which they can be burnt in a much cleaner way. Thus was born Clean Coal Technology (CCT). Much progress has been made with SO_2 reduction but CO_2 remains the key issue. Capture of CO_2 is perhaps the most supported option along with storage in a secure manner. The world's first clean coal power plant went on-line in 2008 in Germany. That plant captures CO_2, compressing the gas into a liquid state. Plans are to inject that liquefied CO_2 into depleted natural gas fields or other suitable geological formations.

RECOMMENDATION No.9: *The Welsh Government should continue to encourage action on CCT, including securing funds if possible, and urge colleagues in the Department of Energy and Climate Change to encourage progress towards a pilot plant in the UK, indeed in Wales if appropriate.*

11.2 As noted, Carbon Capture and Storage is a procedure whereby emissions from burnt fuel can be collected and stored principally be injection into underground geological formations. Long-term storage is the key. However attractive that may seem, there are still many concerns over the security and stability of the storage procedures and sites.

11.3 The British Geological Survey has undertaken much research into potential storage reservoirs in and around the UK and there are limitations in terms of geology and hence favourable locations. Infrastructure costs are significant. The SEREN project being undertaken at the University of Cardiff with support from BGS and Welsh Government is attempting to map the geology of South Wales in sufficient 3D detail to enable confident assessment of potential for CCS. It may well be that there are suitable locations that will be secure but it will be many years before the research is able to confirm such conclusions. The coal industry is entirely happy to support such research with information from its existing operations.

11.4 The UK Government has produced many statements on CCT over recent years and plants in Kent and Scotland have so far failed to take the technology forward for various reasons, with cost believed to be one of the key issues. However, it is also understood that this lack of progress may reflect the generators concerns over carbon price support (CPS) and its implications for installation of CCS at coal fired generation plants, particularly when gas fired plants appear to enjoy exemption. The coal industry is keenly awaiting some tangible progress so that it can plan its own future with more confidence. Until that happens, coal will continue to be burnt in existing power plants with whatever abatement technology is appropriate.

RECOMMENDATION No.10: *Continue support for research into CCT and CCS and ensure that it delivers in a realistic timescale.*

12 The Planning System

12.1 The Town and Country Planning system is at the heart of regulation of land-use. The coal industry has vast experience in dealing with this system and recognises that developments have to be controlled to ensure that the correct balance is struck between the needs of development and the impacts upon environmental issues. Coal mining itself produces no more emissions of CO_2 that any other major civil engineering project and should not be seen as a culprit in this instance. Coal mining is an essential activity if supplies of indigenous coal are to be maintained. Coal mining is a major employer of people in areas that may not have any other potential employment opportunities. Thus the

Planning System should not place hurdles in front of coal mining development that are more stringent than necessary to ensure the proper control of development. The publication of the Minerals Technical Advice Note on Coal (MTAN2) is perceived by many in the industry as being precisely such a hurdle.

12.2 Delays in reaching decisions are often the cause of frustration. There are clear guidelines for determination of applications within given timescales, and statutory consultees should be held to those timescales. Delays cause problems in all spheres of activity, but energy provision across the board from mining to electricity generation must not be prejudiced by avoidable delay.

RECOMMENDATION No.11: *Ensure that planning control of development is not subject to over-regulation or delays, and that Advice or Guidance are not used as unreasonable barriers to progress.*

13 The Role of Different Consenting Agencies

13.1 The Coal Industry acknowledges that various Agencies will have essential roles to play in the future of energy provision in Wales. The Local Authorities are in place to assess and determine applications for planning permission but the ability to do so is being eroded by the diminishing staff resource particularly those who have the necessary expertise to understand the complex issues involved. The arrangements whereby Authorities pool resources is noted but even that regime will be subject to pressures and potentially the same lack of political and professional recognition. Perhaps the time is right for a major reconsideration of the structure of local government in Wales and to devise a new arrangement for energy provision in all its forms. A Regional grouping may well fit the bill.

RECOMMENDATION No.12: *Give consideration to Regional Planning of energy projects including provision of coal.*

13.2 The Planning Inspectorate should not be seen as the sole arbiter in major coal mining developments. Too often, refusal decisions by local authorities are the chosen options for sensitive issues knowing that the Planning Inspectorate will be involved via an Appeal. Usually, such appeals will be determined by the Welsh Government. Decisions by that Government do leave a sense of puzzlement amongst developers particularly where there are inconsistencies. That doubt must be tackled, and decisions taken by the Government must be supported by thorough assessment, analysis and conclusions. Without such, there is a real risk of challenge and further delay.

RECOMMENDATION No.13: *Ensure that planning decisions are consistent and supported by all relevant facts.*

13.3 The intentions to combine the roles of the statutory bodies is one that has support from the coal industry on the basis of avoidance of duplication and reduction in the timescale for commenting upon major proposals. Examples exist of substantial delays in consultation far beyond what is reasonable and the effects upon developers can be moist frustrating.

RECOMMENDATION No. 14: *Ensure that Statutory Consultees are resourced adequately so that they can provide advice and comment in a realistic timescale, and thus avoid unnecessary delays in determination and development of projects.*

14 Conclusions

14.1 Celtic Energy has addressed the issues upon which it feels able to submit evidence. By its very nature, it is not an energy creating company *per se*, but a component of the supply chain to RWE at Aberthaw Power Station amongst other markets. There is a symbiotic relationship, as without indigenous coal, the Power Station would have to rely upon imports and be subject to the insecurities of supply and transport, as well as political intervention. Equally, without Aberthaw Power Station, there would in effect, be no coal industry which brings prosperity and social support to many in South Wales. This Inquiry provides an ideal opportunity to address the key issues of energy production, emissions, environmental regulation and the economy of Wales in a Sustainable manner.

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ANNEX Summary of Recommendations

RECOMMENDATION No. 1: *Wales cannot deal with climate change on its own and must avoid placing itself at economic disadvantage by trying to do so. Plans for a broad portfolio of energy supply over a realistic timescale must be adopted in line with UK objectives.*

RECOMMENDATION No. 2: *Any target must be derived from full analysis of objectives and consequences. If 3% is realistic, then it should be supported by facts and analysis. Otherwise, it may be viewed as a potentially damaging political and economic aspiration.*

RECOMMENDATION No. 3: *Any attempt to phase out existing coal generating capacity in Wales unnecessarily must be resisted in the best interests of the economy of Wales.*

RECOMMENDATION No. 4: *Coal is vital for energy generation in Wales and is the most flexible fuel for meeting peak demand. Its contribution should not be underestimated or under-played.*

RECOMMENDATION No. 5: *This Inquiry should ensure that nothing prejudices the security of energy supply to the UK and particularly to Wales. Support for extant generating capacity is vital and development of new forms of generation should only be introduced in a phased manner.*

RECOMMENDATION No.6: *Carbon footprint must be considered in relation to supplies of fuel for all forms of energy use. Achievement of reduction targets should take into account the advantages of indigenous supplies, and not have a greater impact upon one fuel than any other.*

RECOMMENDATION No.7: *Indigenous coal supplies are vital for Aberthaw Power Station and the energy consumption of the UK. Indefensible hurdles and barriers should not be put in the way of such supplies. The economy of South Wales relies heavily upon the Power Generators and the fuel suppliers.*

RECOMMENDATION No. 8: *The Inquiry should be aware of the importance of coal usage outside the generation of electricity. Industry and domestic markets are just as relevant in assessment of emissions, and unrealistic controls on emissions may have a dramatic effect upon the economy of Wales.*

RECOMMENDATION No.9: *The Welsh Government should continue to encourage action on CCT, including securing funds if possible, and urge colleagues in the Department of Energy and Climate Change to encourage progress towards a pilot plant in the UK, indeed in Wales if appropriate.*

RECOMMENDATION No.10: *Continue support for research into CCT and CCS and ensure that it delivers in a realistic timescale.*

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RECOMMENDATION No.12*: Give consideration to Regional Planning of energy projects including provision of coal.*

RECOMMENDATION No.13*: Ensure that planning decisions are consistent and supported by all relevant facts.*

RECOMMENDATION No. 14: *Ensure that Statutory Consultees are resourced adequately so that they can provide advice and comment in a realistic timescale, and thus avoid unnecessary delays in determination and development of projects.*

Y Pwyllgor Amgylchedd a Chynaliadwyedd

Lleoliad:	**Ystafell Bwyllgora 3 - Senedd**
Dyddiad:	**Dydd Iau, 1 Mawrth 2012**
Amser:	**09:30 - 12:00**

Cynulliad Cenedlaethol Cymru
National Assembly for Wales

Gellir gwylio'r cyfarfod ar Senedd TV yn:
http://www.senedd.tv/archiveplayer.jsf?v=cy_400000_01_03_2012&t=0&l=cy

Cofnodion Cryno:

Aelodau'r Cynulliad:	**Dafydd Elis-Thomas (Cadeirydd)** **Mick Antoniw** **Rebecca Evans** **Russell George** **Vaughan Gething** **Llyr Huws Gruffydd** **Julie James** **David Rees** **Antoinette Sandbach**
Tystion:	**Dr Sandra Esteves, Canolfan Ragoriaeth Cymru ar gyfer Treulio Anaerobig, Prifysgol Morgannwg** **Kath McNulty, Cydffederasiwn Diwydiannau Coedwigoedd (Confor)** **Clifford Parish, Sefydliad Siartredig Rheoli Gwastraff Cymru** **Darren Williams, Eco2**
Staff y Pwyllgor:	**Alun Davidson (Clerc)** **Catherine Hunt (Dirprwy Glerc)** **Graham Winter (Ymchwilydd)**

1. Cyflwyniadau, ymddiheuriadau a dirprwyon

1.1 Cafwyd ymddiheuriadau gan William Powell. Nid oedd unrhyw ddirprwyon.

2. Ymchwiliad i bolisi ynni a chynllunio yng Nghymru - tystiolaeth ar dreulio anaerobig a throi gwastraff yn ynni

2.1 Atebodd y tystion gwestiynau aelodau'r pwyllgor ynghylch treulio anaerobig a throi gwastraff yn ynni fel rhan o'r ymchwiliad i bolisi ynni a chynllunio yng Nghymru.

3. Ymchwiliad i bolisi ynni a chynllunio yng Nghymru - tystiolaeth ar fiomas

3.1 Atebodd y tystion gwestiynau aelodau'r pwyllgor ynghylch ynni biomas fel rhan o'r ymchwiliad i bolisi ynni a chynllunio yng Nghymru.

4. Canllawiau Statudol Drafft ynghylch tir halogedig

4.1 Cytunodd y Pwyllgor i ysgrifennu at Weinidog yr Amgylchedd a Datblygu Cynaliadwy i gydnabod y pryderon a fynegwyd gan Sefydliad Siartredig Iechyd yr Amgylchedd Cymru mewn perthynas â'r Canllawiau Statudol Drafft ynghylch Tir Halogedig.

5. Papurau i'w nodi

5.1 Nododd y Pwyllgor gofnodion y cyfarfodydd a gynhaliwyd ar 9 a 22 Chwefror.

5.1 Ymchwiliad i'r achos busnes dros un corff amgylcheddol - gwybodaeth ychwanegol gan Weinidog yr Amgylchedd a Datblygu Cynaliadwy

5.2 Nododd y Pwyllgor y llythyr gan Weinidog yr Amgylchedd a Datblygu Cynaliadwy.

TRAWSGRIFIAD
Trawsgrifiad o'r cyfarfod.

Y Pwyllgor Amgylchedd a Chynaliadwyedd

Lleoliad:	**Ystafell Bwyllgora 3 - Senedd**
Dyddiad:	**Dydd Iau, 1 Mawrth 2012**
Amser:	**13:30 - 14:25**

Cynulliad Cenedlaethol Cymru
National Assembly for Wales

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Cofnodion Cryno:

Aelodau'r Cynulliad:	**Dafydd Elis-Thomas (Cadeirydd)** **Mick Antoniw** **Rebecca Evans** **Vaughan Gething** **Llyr Huws Gruffydd** **Julie James** **William Powell** **David Rees** **Antoinette Sandbach**
Tystion:	**Ewan Campbell-Lendrum, Infinis** **Dr Aonghus McNabola, Prosiect Hydro-BPT, Coleg y Drindod, Dulyn** **Richard Rees, Ynni Dŵr Gogledd Cymru**
Staff y Pwyllgor:	**Alun Davidson (Clerc)** **Catherine Hunt (Dirprwy Glerc)**

1. Cyflwyniadau, ymddiheuriadau a dirprwyon

1.1 Cafwyd ymddiheuriadau gan Russell George. Nid oedd unrhyw ddirprwyon.

2. Ymchwiliad i bolisi ynni a chynllunio yng Nghymru - tystiolaeth ar ynni dwr

2.1 Atebodd y tystion gwestiynau aelodau'r Pwyllgor ynghylch ynni dŵr fel rhan o'r ymchwiliad i bolisi ynni a chynllunio yng Nghymru.

2.2 Cytunodd Mr Rees a Mr Campbell-Lendrum i ddarparu gwybodaeth ysgrifenedig i'r Pwyllgor ynghylch:

- Yr arfer o orfod cael caniatâd ar gyfer trwyddedu gan Asiantaeth yr Amgylchedd cyn i gais cynllunio gael ei ddilysu, gan gynnwys cymhariaeth rhwng ei profiad nhw o'r broses a ddilynir gan Barc Cenedlaethol Eryri a'r broses a ddilynir gan awdurdodau lleol cyfagos.
- Enghreifftiau o arfer gorau yn y diwydiant ynni dŵr mewn mannau eraill yn y DU.
- Y safonau gwahanol ar gyfer rhannu llif yng Nghymru o'u cymharu â'r Alban a Lloegr.
- Proffidioldeb cymharol cynllun tebyg yng Nghymru o'i gymharu â'r Alban.

2.4 Cytunodd y Pwyllgor i ysgrifennu at Asiantaeth yr Amgylchedd i geisio eglurder ynghylch y polisi rhannu llif yng Nghymru a materion cysylltiedig.

TRAWSGRIFIAD

Gweld trawsgrifiad o'r cyfarfod.