

Your ref:  
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28 March 2006

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Dear Sirs

#### **DTI ENERGY REVIEW: CONSULTATION DOCUMENT**

Thank you for giving Cumbria County Council the opportunity for comment on your Green Paper, "Our Energy Challenge: Securing Clean, Affordable Energy for the Long-Term". This is the agreed response of the County Council.

The County Council has carefully considered the important issues you raised with partner organisations across the County. A debate on this response was held at the meeting of the Council on 23 March 2006. That debate had been informed by:

- A report prepared by consultants on the energy baseline (including information on Nuclear power) for Cumbria County Council's Nuclear Decommissioning Working Group (NDWG);
- A joint Nuclear Issues Seminar (to which District Councils and key voluntary sector organisations were invited);
- And a discussion at our Cabinet on 21 March.

The County Council welcomes the full public consultation approach adopted by DTI in developing its recommendations for a future UK energy policy. We have endeavoured to look at your key questions from a national, regional and, particularly, a Cumbrian point of view. You will appreciate that with four nuclear licensed facilities – Calder Hall, Sellafield, Windscale and the Repository at Drigg – plus some 60% of the UK's radioactive waste in Cumbria, the nuclear power question holds great significance for us. Equally we have been affected by the growth of wind power as a source of energy and have raised concerns about its environmental impact.

We are also very conscious of the important role that North Sea Oil and Gas has played in the UK economy in the past thirty years and believe that we will all need to be focussed on replacing that source of income and wealth as the reserves become exhausted in the coming years. The new national energy policy will need to be developed with an appreciation of its economic consequences.

Our approach has been to say:

- That improving energy efficiency is vital;
- That we need to establish and manage a diverse range of sources of power;
- That the Government needs to determine its policy on the disposal of nuclear waste before making decisions on whether or not to construct new nuclear power plants.

In response to your key questions we have agreed the following responses:

**Q1 What more could the Government do on the demand or supply side for energy to ensure that the UK's long-term goal of carbon emissions is met?**

The County Council believes that national policy should begin by reducing the need for energy by increasing energy efficiency.

*County Council Policy*

Cumbria County Council has demonstrated this in its actions. In January 2006, the County Council signed up to the North West Climate Change Charter. This points Cumbria's policy framework towards:

- Formulating action on mitigating and adapting to climate change;
- Helping achieve national CO<sub>2</sub> reduction targets;
- Initiating a process to ensure that climate change impacts are assessed as part of the Council's decision-making process;
- Putting policy into practice and taking all practical steps to limit CO<sub>2</sub> emissions.

This approach is backed by our longstanding policy, set out in the County's Sustainability Strategy, whose objectives include: work to reduce carbon emissions from transport and energy use, and to help communities and businesses adapt to climate change. Our other sustainability objectives are designed to encourage community participation in decision-making and enable people to re-assess their values and find ways to live sustainably. We would welcome Government working to strengthen the sharing of these 'best practice' policies across all Local Authorities.

In terms of putting policy into practice, the County Council has re-launched its Action at Work programme during March 2006 – as part of this staff will be given awareness training on how to improve energy efficiency. This will tackle (inter-alia) CO<sub>2</sub> emissions arising from normal operational activity and from the policies we set. The Council is also running the award winning sustainable communities programme, which aims to help households live sustainably, and sponsors the Business Environment Awards scheme, which promotes energy efficiency to local companies. The Council is also campaigning for the local Community Renewables Initiative (Claren), to receive continued funding from the DTI, and is actively supporting the International Centre for the Uplands in its quest to promote low carbon uplands communities.

*Buildings*

We welcome the Government's introduction of new Building Regulations in April this year. We are pleased they are designed both to reduce energy consumption in existing buildings whenever alterations are made or extensions built (such as through effective insulation), and to encourage designers to incorporate renewables in new buildings as part of improved energy standards. It is understood that some Local Authorities are insisting on renewables providing up to 10% of the power to every new building as part of their planning approvals.

We have, however, only said that this is desirable. It would seem sensible that the Regulations be amended in the future to make them mandatory in new build and major refurbishment. Our view is that a 3-year lead in time would probably be necessary to allow the supply side to gear up and the construction industry to become familiar with the technology. Stability issues between micro wind generation and electricity distribution networks need to be resolved quickly.

### *Transport*

For sparsely populated communities, such as Cumbria, transport is a key component of a high quality life style. It is vital that the energy resources available to us are used in a way that supports our needs.

On transport, the exponential increase in greenhouse gas emissions from aviation needs to be dealt with quickly and effectively. We understand the Government has recognised this and needs to push for urgent action from its EU neighbours on the introduction of an 'aviation emissions' trading scheme.

In Cumbria, the Local Transport Plan sets locally relevant and realistic, but challenging, targets that focus on the shared priorities of congestion, accessibility, safety and air quality. They take account of national and regional targets (as set out in the Regional Economic Strategy and the Regional Spatial Strategy) as well as local circumstances.

### *Business*

Greenhouse gas emissions from business can best be tackled by survey and advice initiatives coupled with demonstration projects, grants and loans funded by Government or appropriate agencies.

Reducing public sector emissions requires investment. This can best be made to happen by requiring Comprehensive Performance Assessment to include energy investment and carbon reduction targets. Similar requirements can be introduced in other public sector performance assessment regimes.

**Q2 With the UK becoming a net energy importer and with big investments to be made over the next twenty years in generating capacity and networks, what further steps, if any, should the government take to develop our market framework for delivering reliable energy supplies? In particular, we invite views on the implications of increased dependence on gas imports.**

We believe the UK should take an approach of seeking to secure its energy needs from a variety of technologies and sources of supply, particularly including that generated from within the UK as the means of ensuring continuity and reliability of provision in a competitive world market.

Energy demand in the UK is not growing quickly – indeed it is forecast to grow at about half a percent per annum, much lower than the rate of economic growth. However, the UK does have a large stock of ageing coal and nuclear power stations that are scheduled to close in the coming decade. Until recently, it was assumed that old stations would be replaced by gas and, to a lesser extent, renewables. These projections were based on assumptions that gas prices would continue to be low, and supplies secure. As your consultation paper says these assumptions are being questioned, and if no more gas plants were built, the UK would face a generating shortfall of about 1.5 Gigawatts a year – equivalent to building one large coal or nuclear power station a year. With current technologies, there are considerable

downsides to any one energy technology meeting this generating gap hence our recommendation that a mix of technologies is preferable.

This would help provide a viable energy mix to take up the deficits expected in the near to mid-term future. This should begin quickly, as development and instalment of these technologies will not be overnight.

### *Renewables*

We believe that the UK does not have a meaningful renewable energy strategy and we see little Governmental R&D investment in this sector. We believe that the Government should invest in the production and R&D of renewable technologies to a much greater extent than at present. The potential of geo-thermal power is an option that justifies further research. Not only is there scope for major renewables schemes, but also for micro-generation schemes, which are reported to reduce transmission losses.

In terms of domestic dwellings, the Government can stimulate supply of micro-generation technologies by further revising building regulations to require new build to incorporate Photo Voltaic units, micro Combined Heat and Power units, solar hot water panels and erecting building-mounted wind generators. Of these, the solar hot water panels are reported to give a faster payback than the others.

Retro-fitting these technologies to older houses could be encouraged through grant support or left to market forces which, given the recent and likely future price rises in fuel costs, will generate price differential between energy efficient properties and those which are expensive to light and heat. Fuel poverty aspects can be pursued through housing associations and the network of energy efficiency advice centres. They should be given a further funding boost to reduce heat loss and improve the energy efficiency of older housing stock and homes in which the young and vulnerable live.

There is great potential to promulgate these micro-generation schemes at schools – both to gain energy-efficiency and to educate the next generation. Of course, these schemes could also work favourably on public and local government buildings, etc. The County Council see great potential for domestic and public micro-generation schemes in Cumbria, bearing in mind the protected landscape status of much of the County.

Increasingly, upgrading capacity to a dual-flow electricity distribution system will be required to allow renewable generation to feed into the grid. The Government urgently needs to progress investment through the National Grid Company and local utility companies, exploring tax breaks and other incentives to provide the necessary stimulus. This would allow the hook up of renewables from remote locations and, in particular, help stimulate 'wave power'.

### *Wind Energy*

Wind energy development forms part of the energy generation capacity for Cumbria. There are currently 11 active developments providing around 43MW of electricity each year. A further 4 schemes have planning consent (21MW). Together, these could meet the electricity needs of 35,600 households or around 17% of all households in Cumbria. The demand to build further wind energy developments in Cumbria will continue, due to the high wind resource and Government guidance. However, it is unlikely that we will be able to meet our long-term energy needs solely by wind energy, indeed there is a strongly held view that Cumbria has provided too high a proportion of existing wind generation schemes.

The Government has identified the North West coast as a strategic area for offshore wind energy schemes. Several have permission to be built or are under construction. These contribute to the national energy generation capacity and do not contribute to any Cumbrian targets for renewable energy generation.

We understand that the Government wishes to see local planning authorities giving greater weight to the benefits of renewable energy (PPS22) and, in particular, to recognise that wind energy is likely to be the dominant technology in the short and medium term. In accordance with this guidance, the Joint Structure Plan includes policies to support the development of renewable energy, including wind energy schemes. We are currently preparing supplementary planning guidance to develop this part of our Structure Plan policies. A number of criteria need to be met in order to ensure that any renewable energy developments do not cause significant harm to certain aspects of the Cumbrian environment.

Although it is recognised that wind energy is the dominant technology, it is unlikely that sufficient acceptable locations will be found to meet all our renewable energy needs this way. However, it will make a significant contribution.

Only a proportion of those schemes put forward in the last 15 years have been granted permission. The main factors that have restricted wind energy development to date, and are likely to limit more schemes in the future, are adverse impacts to the character of important landscapes and their settings and associated negative visual impacts of wind turbines. An assessment of the landscape capacity to accommodate wind energy development has been carried out and will provide the basis for our Wind Energy Supplementary Planning Document. This shows that large parts of Cumbria are considered to have a low capacity to accommodate wind energy development without significant harm.

The limitations of renewable energy generation (including onshore wind) were explored in a technical study<sup>1</sup> that was undertaken in 2003. This identified the potential for further grid-connected renewable energy development in Cumbria. It took into account economic, social and environmental factors, as well as technical and viability considerations. The study identified broad Areas of Search for renewable energy developments in the county (including wind) and assessed broad capacities for the development of this technology.

### *Hydropower*

With its landscape of lakes, rivers and waterfalls, Cumbria is uniquely placed within England to take advantage of the power generated by small hydroelectric as an important part of our energy mix. Small hydroelectric schemes offer a means for developing distributed, rather than central, generation and distribution.

Within the UK, small hydroelectric generating stations are recognised as a renewable resource and attract support under the Renewables Obligation scheme and the financial incentives delivered by the carbon trust schemes. OFGEM encourage distributed generation and, in 2005, introduced new distribution price control resulting from four years consultation with generators and distributors, we welcome this.

Of course, in Cumbria, much of the natural resource within the county is under the authority of the Lake District National Park Authority - inevitably, there will be planning issues and environmental concerns to be overcome. However, unlike wind turbines, which are visually intrusive, small hydroelectric schemes leave little trace once they are operational (although there is some disturbance during their construction).

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<sup>1</sup> Technical paper No 6: Planning and Renewable Energy Development in Cumbria by AXIS, CCC and LDNPA, 2003

Glenridding is just one of a number of small hydroelectric generators embedded in Cumbria already. Other less traditional options could also be explored e.g. using the water which flows down from Cumbria to Manchester as part of their water supply network.

Cumbria should not miss out on the opportunity to encourage development of this clean energy resource and the Government's declared intent to support embedded generation to take the load off the distribution systems.

### *Tidal and Wave Energy*

As discussed by the Institute of Biology<sup>2</sup>, although wave and tidal power schemes may be cost effective in a commercial sense over their respective lifetimes, the bulk of the costs are up-front and concerned with construction - this is probably one of the critical factors as to why these schemes have not yet been pursued to any great degree. However, their potential to contribute significantly to the UK energy supply mix is considerable. There is, therefore, the need to take a long-term view to reap the greatest benefits.

There are now dozens of designs for utilising sea power. The majority are those on the sea shore, using the power of the waves as they reach the end of their journey – but extensive exploitation could have impacts on important UK habitats. Larger scale possibilities come from machines anchored out to sea, which have minimal impact on marine life. Once a device is proved to work effectively, hundreds of the same could be harnessed together, providing wave farms. It has been reported that attaching floating wind turbines would further increase the efficiency.

Underwater tidal currents, which have enormous power, have proved their potential in the West Country - and could work in lots of other places where there is a significant range of tide levels. These underwater 'wind turbines' are too deep to interfere with shipping and, unlike wind farms, should not generate environmental controversy. The advantage of tides over wind is that the rise and fall, and the undersea currents they generate, are predictable years in advance, enabling producers to know how much electricity they can expect. It solves one of the great criticisms of renewables - that they provide only an intermittent service.

Tidal barrages or bridges with tidal turbines, such as that proposed (though not accepted, to date) between Morecambe and Barrow, are almost entirely confined to estuarine environments. This has the potential to impact adversely on international bird populations, salt marshes, land drainage and estuarine pollutant removal. Turbines in barrages would have an effect on migratory fish and sediment transport. However, it is worth considering that the existing sea level rise anticipated due to global warming is likely to change the nature of some estuaries. One might, therefore, contemplate that the imaginative use of barrages might pay for some ameliorative conservation measures, though a significant research effort would be required to ascertain whether there was sufficient merit to this.

### *Biofuels*

It has been proposed that specific crops could be grown - sugar beet, oilseed rape and wheat to produce oils – though there are some concerns<sup>3</sup> that this 'fuel of the future' uses as much energy to sow, grow and distill as they ultimately produce. Drax power station in Yorkshire, which supplies around 7% of the UK's electricity needs, has trialled the burning of timber and

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<sup>2</sup> Institute of Biology – memorandum to Select Committee on Science and Technology, 9 Feb 2001

<sup>3</sup> Lord Oxburgh, January 2006

crops to begin to replace coal burning, reducing CO<sub>2</sub> emissions, and to use a renewable, sustainable fuel source.

Within Cumbria, there are currently applications to grow willow and miscanthus specifically to produce a biofuel.

In Cumbria, the general drawback to the use of biofuels is that the power stations are not situated close to the crops.

### *Energy Recovery from Waste*

In February this year, the Chartered Institution of Wastes Management (CIWM) published a position statement on 'Energy Recovery from Waste'<sup>4</sup>. They state that "the UK's capacity to recover valuable energy from its waste is under-developed" and suggest that Energy from Waste (EfW) could account for some 27% of the municipal waste stream by 2020, compared to 9% at present. In order to support the three vital policy areas identified by CIWM – "meeting tough landfill diversion targets; combating climate change; and meeting energy demand through secure and sustainable supply" - Government needs to take urgent action on the commissioning of plants and technologies, showing their recognition of the important contribution of energy from waste to the UK's energy mix.

The County Council and the six District Councils in Cumbria, through the Municipal Waste Management Strategy, are making concerted efforts to encourage waste reduction and increase re-use and recycling. However, even if 50% of waste is recycled (as achieved in much of Europe, compared to England's present performance of 23%), the residual municipal and other waste could be a significant source of biomass. CIWM estimate that our residual waste in the UK has the energy equivalent of 5 million tonnes of coal – after using recoverable materials like paper for other purposes. Other wastes, such as wood, could double that energy value.

Energy from waste could therefore replace up to the equivalent of one-third of the coal used to generate electricity in the UK and, in theory, easily satisfy Government's 2010 target of 10% of electricity generated from renewable sources. Although approval and commissioning of new waste infrastructure can take many years, some measures can be taken to realise energy supply, climate change and waste management benefits more quickly.

The diversion of biodegradable waste from landfill, encouraged under the Landfill Directive and associated LATS targets, will assist in reducing greenhouse emissions, and a number of technologies are available for management of the waste diverted from landfill. The County Council has not yet committed to a particular technology but, if a waste management contractor using direct energy from waste or producing refuse derived fuels from other processes is selected, the energy deriving from that should be included in any calculations of energy requirements and assessment of alternative methods of energy generation.

While recent Government announcements to encourage energy recovery from waste through Combined Heat and Power (CHP) schemes under the Renewables Obligation should encourage manufacture of 'clean' waste derived fuels and their efficient use, there are other measures that would also help enlarge the choice and options from energy recovery. These should also be developed.

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<sup>4</sup> Chartered Institution of Wastes Management, Position Statement, 'Energy Recovery from Waste' dated 13 February 2006

Burning waste-derived fuels that are still legally defined as a 'waste' require stringent emission controls under the European Waste Incineration Directive (WID), regardless of how highly processed or refined that 'waste' is.

Industry and regulators should co-operate to agree protocols and quality criteria for waste-derived fuels that would burn cleaner than many coals as a fuel in power stations and industrial plant. Waste-derived fuels that can meet the standard should be declassified as waste. Government should, therefore, explore financial incentives to encourage these fuels to be burnt in WID compliant plants to keep to the highest emissions standards. The 'best' technology for recovering energy from residual waste will depend on local, technical and financial circumstances. Strategic choices should be made on the back of detailed life cycle, environmental and health impact assessments of all options available. Use of 'advanced' technologies, such as gasification and pyrolysis, is being assessed and may help more of the energy in the waste to be turned into electricity rather than heat. However, these are still being assessed and Government needs to stimulate short and medium-term solutions to energy generation in the meantime.

Across the UK, where energy from waste is adopted as a waste management tool, waste and energy markets should be positioned to achieve the desired outcome quickly. The following list suggests some approaches to be considered:

- Assess the current and likely future market for waste derived fuels that are still 'waste' - especially in high energy use industries where security and diversity of fuel supply could be seen as a commercial advantage;
- Promote 'waste' used as an industrial fuel, e.g. via enhanced capital allowances;
- Support Europe-wide standard setting for waste-derived fuels to set the standard high, thus helping to ensure customer confidence in them;
- Urge the European Commission to treat high specification waste-derived fuels as a priority for de-classification as 'waste';
- Prioritise the re-definition of energy recovery from waste as a 'recovery' rather than 'disposal' operation under the Waste Framework Directive, (based on energy efficiency criteria);
- Support R&D in Europe and the UK to increase the proportion of waste-derived fuels that can be successfully co-fired - without any drop in emissions standards.

Cumbria County Council supports the CIWM position statement and would urge Government to pursue the measures that are advocated therein.

**Q3 The Energy White Paper left open the option of nuclear new build. Are there particular considerations that should apply to nuclear as the government re-examines the issues bearing on new build, including long-term liabilities and waste management? If so, what are these, and how should the government address them?**

The Energy Review has raised the prospect of new nuclear power stations being constructed in Britain for the first time in over a decade. Cumbria, and in particular West Cumbria, has played a crucial role in the UK's nuclear programme. This involvement has had a range of positive (e.g. significant employment) and negative (e.g. large quantities of nuclear waste) impacts. We believe that the nation can learn from our experience.

To assist with this the County Council and the Borough Councils of Allerdale and Copeland, commissioned a report on the energy baseline for Cumbria, with particular emphasis on whether new nuclear build was a viable option in the county. This study highlighted a range of issues, such as linkage to the national grid and socio-economic impacts. In particular it

demonstrated that a new nuclear power plant would not counter the negative employment impacts of nuclear decommissioning on the West Cumbrian economy.

We recognise the important role that Nuclear Power has played in providing the base load for electricity generation in the UK for many years. As those power stations close they will need to be replaced by facilities that fulfil a similar purpose.

Nuclear power also has the great advantage of providing electricity with a very low level of CO<sub>2</sub> emissions (taking account of the fact that CO<sub>2</sub> is generated both as these power stations are constructed and again when they are demolished, even if the production of electricity is free of CO<sub>2</sub> emissions).

Finally we recognise that there is greater certainty and security of supply of the fuel than is the case for oil and gas. The fact that much of the current supply is from well-established democracies in Commonwealth countries gives confidence on this point. That said we are concerned that proper protection from health and safety risks must be provided for the communities involved in extracting this material.

This leads us on to the special issues that need to be taken into account in considering whether new nuclear power plants should be constructed. We set out below views, based on our long experience, and would particularly offer our expertise in stakeholder engagement work as a national exemplar. The key points we make are:

- That safety has to be paramount;
- That the question of disposal of nuclear waste needs to be determined before a commitment is made to new nuclear power plant construction;
- That nuclear should only feature as part of a diverse range of supplies;
- That there should be strong community involvement in the selection of sites for nuclear facilities;
- That the Government needs to consider carefully the priorities it sets on the use of scarce public sector resources in supporting the development and production of sources of energy.

### *Safety Has To Be Paramount*

There is great public concern about the safety of nuclear power, particularly post-Chernobyl and the Three Mile Island safety incident. Key nuclear materials in production, use and subsequent disposal are a hazardous material; some are very hazardous. Experience shows that significant accidents continue to occur caused both by human error and poor safety systems. There is also a risk of abuse of these materials by terrorists and criminals.

Government must ensure that the commercial pressures on companies do not appear to undermine the commitment of regulators and professionals within the industry for safe working. This must include providing a commercial incentive for long-term safe working practices.

These concerns remain very real today and are strongly held by many people in Cumbria. It is often the case that the appearance of the risks is as important as the professional judgment of that risk. We have experience of investors and tourists not wanting to visit a 'blighted area'. Unless there is strong and open management of safety issues these public concerns can fester and grow. We know that arrogant and poor management by some companies can cause the public to lose confidence in the industry. The Government must pay proper attention to this issue if it wants to consider commencing a new programme of building nuclear power stations.

### *Provision Must Be Made for the Management of Nuclear Waste Materials*

The experience of the past fifty years, where decommissioning and waste management liabilities have not been recognised until recently is not a sound basis on which to commence a new programme of construction. We recognise the very substantial work done on this issue in recent years will provide a sound foundation for future nuclear generation. The County Council has been contributing actively to the consultation process in relation to the management of nuclear wastes and is anticipating positive Government announcements before the end of the current calendar year. We would urge that decisions should be made and announced on how the UK will manage its nuclear decommissioning waste before decisions are made on a new programme of nuclear construction.

The County Council established a cross-party Nuclear Decommissioning Working Group some years ago to enable it to respond to the issues raised in the creation and development of the Nuclear Decommissioning Authority. This has enabled us to lobby as the Bill creating the NDA went through Parliament and also make a full contribution to the continuing debate on the disposal of High and Intermediate Level Nuclear Waste through the CoRWM process. We will shortly be commenting on the DEFRA consultation on Low Level Nuclear Waste. We have also worked with other local authorities through NuLeAF – the special interest group of the Local Government Association coordinating the work of local authorities on this issue. This has given us a good understanding of the complex issues involved in determining how best to dispose of nuclear waste. We demonstrated in our committed opposition to the proposals made by NIREX 10 years ago that we will oppose ill thought out proposals for dealing with this waste. This long outstanding issue needs to be dealt with clearly and transparently.

### *There Must Be Diversity of Supply*

Our fundamental principle in responding to this consultation is that no one source of power should dominate in the national picture. Where one source of supply, such as gas in recent years, becomes the supply of choice the nation becomes vulnerable to changes in market and technical conditions affecting that supply source. In the case of Nuclear Power past experience suggest that it is cost effective as a base load supply, but less commercially viable if used to top up other sources of supply at short notice.

### *Community Involvement In Choice of Location*

Long experience of an industry which has a poor public image shows that it is vitally important both that there is full public consultation on the choice of location for new facilities and that there is transparency in the operation of plant.

We would recommend a process for the selection of the sites for nuclear facilities that incorporates volunteerism, veto and community benefits as part of a staged decision-making process. **Volunteerism** is taken here to mean a willingness to participate in a process, as a first step. It does not imply acceptance of a proposal to develop a facility of any kind but merely indicates that a community is prepared to learn more. **Veto** is regarded here as the converse of volunteerism. If a community that has expressed an interest in learning more decides, for whatever reason, that it does not wish to continue, it should be completely free to do so. There must be a certain stage in any facility development process when commitments to continue become binding, or else problems will obviously arise regarding financial expenditure, etc. **Community benefits** can be both measures designed to encourage a community to take part in a process, i.e. volunteer (but not be worse off afterwards), and also compensatory measures designed to offset the real or perceived impacts of facility development. As such they should take account of potential effects on house prices, businesses, tourism, sale of agricultural produce, etc.

We do not believe that a system that results in the location of facilities being imposed on communities will result in long term support for the industry. This must mean freedom for the local authorities concerned to be in control of the land use planning process.

#### *Careful Use of Public Sector Resources*

It is inevitable that the use of scarce public resources will influence the sources and uses of power in our country. This begins with publicly subsidised research, continues with direct sponsorship of individual suppliers, taxation of use and private sector profits and ends with Government funded decommissioning. It is vitally important that Government Plans consider the impact of new policies on this scarce resource as they are developed.

It seems to us that energy efficiency is a cost effective investment with a relatively quick payback, this can be reinforced with tax incentives. Research, on the other hand, is much more uncertain with a return only being generated in the long run. It is clear that a variety of interventions in the energy market, from setting particular rates of VAT through to Carbon Taxes and subsidies for some resources of 'green' energy have hidden the true cost of alternative sources of energy supplies. It is vital that in considering the option of further construction of nuclear power stations in the UK that the Government takes account of the whole life costs of the process.

In particular Nuclear power, as an energy source, has been out of favour for over a decade for a number of reasons:

1. Cost - nuclear is more capital intensive than most other large power sources and, in liberalised energy markets, investors are not willing to invest in new nuclear stations without Government guarantees;
2. Cheap gas and Combined Cycle Gas Turbine technology made gas very attractive in financial terms;
3. Financial uncertainty - investors were, and continue to be, unable to price decommissioning and waste management costs;
4. Surpluses - in the UK there was a large surplus of generating capacity in the 1990s.

**The decision on new build cannot rest on facts and figures alone – the decision must fit in with other regional and national strategies, such as the Regional Economic Strategy, the Regional Spatial Strategy, the NWDA's Nuclear Strategy and the Nuclear Skills Strategy, as well as those policies that will emerge from the CoRWM recommendations on Intermediate and High Level Waste management and the Low Level Waste Policy Review.** These issues will all need to be effectively dealt with if Government decides to plan for a new programme of Nuclear Power plant construction.

**Q4 Are there particular considerations that should apply to carbon abatement and other low-carbon technologies?**

We have no views on this question.

**Q5 What further steps should be taken towards meeting the government's goals for ensuring that every home is adequately and affordably heated?**

We believe that the Government should improve the 'decent homes' standard to reflect much higher levels of energy efficiency and encourage the owners of privately owned homes, as well as social housing organisations, to raise the standards of energy efficiency to these levels. Opportunities should also be taken to design-in solar panels and similar energy generating facilities when new houses are built. There is a real risk that in an era where energy costs are likely to rise that the elderly and the vulnerable will be exposed to much higher levels of fuel poverty. We must reduce the excess of deaths each winter related to poorly heated properties.

We were also invited to comment on the following issues:

**i The long term potential of energy efficiency measures in the transport, residential, business and public sectors, and how best to achieve that potential**

We believe that the Government has to send out strong signals to the market on reducing carbon emissions from home energy use, transport use and energy consumption in the industrial, commercial and public sectors. These views strongly inform our response to earlier questions in this consultation.

**ii Implications in the medium and long term for the transmission and distribution networks of significant new build in gas and electricity generation infrastructure**

*Distribution Networks*

Distributed generation, sometimes called embedded generation, is electricity generation that is connected to the distribution network rather than to the high voltage transmission network. It is typified by smaller generation, such as that produced by renewables, including small hydro, wind and solar power and smaller Combined Heat and Power. The development of distributed generation has an important part to play in meeting the Government's long-term environmental targets.

UK distribution networks were built to deliver power from the old Central Electricity Generating Board national generation and transmission network to the end customer. Distributed generation, however, requires more active distribution networks that allow electricity to flow in two directions – to the electricity user, for consumption in homes or businesses, and onto the network, when the user is exporting excess generation capacity. Under the current arrangements, the smaller renewable generators have found it difficult and expensive to connect to the distribution networks.

OFGEM is addressing the issues facing distributed generation to ensure that its development is not unfairly treated by the way in which networks are currently operated and regulated. Following a consultation in September 2001, OFGEM is now proposing some initial measures to embrace technological developments and provide a fair and transparent regime for distributed generation, so that it can establish itself in the UK's electricity market.

**iii Opportunities for more joint working with other countries on our energy policy goals**

We welcome the potential benefits arising from joint working with other countries. In particular, we note that on 7 March this year, the UK's Environment Secretary, Margaret Beckett, and the Brazilian Foreign Minister, Celso Amorim, signed a joint statement

establishing the UK-Brazil High-Level Dialogue on Sustainable Development and a Working Group on Climate Change. This follows similar agreements signed with China and India – developing countries whose demand for energy continues to increase.

These agreements provide an important platform to improve understanding, exchange lessons and undertake joint action. We hold the world in trust for future generations and must act together to remediate any previous destructive actions and practices, as entailed in the Kyoto Protocol.

**iv Potential measures to help bring forward technologies to replace fossil fuels in transport and heat generation in the medium and long term.**

We have commented above on the need for greater research into renewable and other alternative energy generation. Given the valuable by-products available from fossil fuels we are not convinced that combustion is the best use of such scarce minerals.

**Conclusion**

In order to obviate being caught in the middle of an energy argument – such as that between Russia and the Ukraine in January of this year over gas supplies - the Government must encourage home-grown energy supplies, rather than relying on energy importation. This would mean a new focus on wind and tidal power, the embracing of “clean” coal-burning technology and, most controversially of all, nuclear power stations.

Our view is that the key goals for Government should be sustainability and energy efficiency. It should take a whole life view of these goal for all types of energy generation. We believe the Government needs to place more investment in the development of renewables technology and production – without reliance on one particular energy source, but using an energy mix. This has the potential to produce new jobs as well as generate clean energy. Perhaps an energy industry hub could be developed in West Cumbria to replace the loss of nuclear industry or to help diversify the monopoly.

In summary our approach has been to say:

- That improving energy efficiency is vital;
- That we need to establish and manage a diverse range of sources of power;
- That the Government needs to determine its policy on the disposal of nuclear waste before making decisions on whether or not to construct new nuclear power plants.

We hope you find these comments helpful.

Yours sincerely



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