

Our Energy Challenge: securing clean, affordable energy for the long term

Consultation response by the Nuclear Free Local Authorities (NFLA) Steering Committee

Introduction

- 1.1 The NFLA Steering Committee has the support of 72 Local Authorities throughout the UK and Ireland including Glasgow, Edinburgh, Leeds, Manchester and the Greater London Authority. Some of its member authorities host nuclear sites, some are neighbouring authorities concerned about local economic, safety and environmental impacts of future legacy management, others are more widely dispersed and affected, for example, by nuclear transportation or historic, and potential future, nuclear facility siting issues. All are concerned about potential major nuclear accident consequences and co-operate in the collective community interest to: eliminate the major production cycles that generate radioactive wastes; phase out nuclear generating capacity; and ensure safe management of the radioactive waste legacy.

Consultation Questions

- Q.1 What more could the government do on the demand or supply side to ensure that the UK's long-term goal of reducing carbon emissions is met?*
- 2.1 While climate change is undoubtedly a very serious problem, it is clear that nuclear power can only ever make, at best, a small contribution to reducing carbon dioxide emissions. Nuclear power provides around 22 per cent of electricity, but only about 8% of total energy. The Energy Policy Review needs to focus on policies for the total energy system, not just electricity.
- 2.2 Nuclear power is much less effective at cutting carbon emissions than energy efficiency or renewable energy. Promoting new nuclear reactor construction would be very likely to have a negative impact on these more cost effective measures. Kevin Anderson, a senior research fellow at the Tyndall Centre for Climate Change Research, says the idea that nuclear power is the only way for Britain to meet its carbon targets are fundamentally wrong: "We can easily deal with climate change

without nuclear power." [1] Replacing nuclear reactors with gas and coal power stations by 2020 would raise carbon emissions by 4%-8%. "We could very easily compensate for that with moderate increases in energy efficiency". If we are going to have to spend taxpayers' or consumers' money on driving carbon out of the economy it is far more effective to spend it on reducing demand.

- 2.3 Re-opening the question of energy policy is creating uncertainty for potential investors in energy. The policies set out in the 2003 Energy White Paper have had little time to start taking effect let alone reveal their long-term potential. [2] Dr Catherine Mitchell, a member of the last Energy Review team, says we don't need another review – what we need to do is implement the recommendations of the last White Paper on energy efficiency and renewable energy. [3]
- 2.4 This review should, therefore, be about how to put in place a robust plan to make sure that the fundamental recommendations of the 2003 White Paper are delivered. It should, for example, recommend a target for renewable energy to provide at least 20% of our electricity by 2020.
- 2.5 We also need policy that provides energy efficiency and demand reduction with an opportunity to achieve their full potential. We could reduce demand very quickly, for example by implementing policies to further improve efficiency of domestic appliances (e.g. fridges) and phasing out the incandescent bulb. A strategy of targeting households with inadequate insulation, particularly houses with uninsulated cavity walls, would also have a greater impact on fuel poverty than providing more supply.
- 2.6 The Government should amend building regulations so that new buildings, as well as being much better insulated than existing stock, include some form of micro-generation. In order to prepare the market for this change we need a very strong programme to support the uptake of micro-generation, between now and 2010 with increased grant support.
- 2.7 One way of delivering both energy efficiency and micro-generation would be to develop Energy Services Companies which sell energy saving services, not just kilowatt hours – in combinations suited to the circumstances of each particular customer. Energy companies say that at the present time they cannot make money from the sale of energy services, they can only make money from the sale of kilowatt hours.

The incentive system, therefore, needs to be changed to encourage energy companies to promote energy efficiency and energy saving.

- 2.8 In practice, keeping nuclear power alive means diverting scarce resources from the cheaper market winners, such as cogeneration, renewables, and energy efficiency, to the more expensive nuclear option. Energy economist, Gordon MacKerron [4], says a worst-case scenario might be that following a commitment to nuclear new-build non-nuclear investment is sterilised, but there could also be problems causing the nuclear programme itself to stall. Such a scenario is far from a remote chance - the last time a UK government committed to 10 nuclear stations (in 1979) only one station was built, Sizewell, and then only after 15 years. If that were to happen again, security of supply would substantially worsen in the 2010s.
- 2.9 Nuclear investment would serve to reduce and retard the reduction of carbon dioxide emissions, because it would save far less carbon per pound spent and provide less new electricity per year. [5]

"Each dollar invested in electric efficiency displaces nearly seven times as much carbon dioxide as a dollar invested in nuclear power, without any nasty side effects. If climate change is the problem, nuclear power isn't the solution. It's an expensive, one-size-fits-all technology that diverts money and time from cheaper, safer, more resilient alternatives." [6]

- Q.2** *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.*
- 3.1 The current regulatory system reflects the characteristics and needs of conventional technologies - large and centralised power plants such as fossil and nuclear stations, and the rules suit them. The market framework, and regulatory system need to adapt so they promote, rather than act as a barrier to, energy efficiency and decentralised generation.
- 3.2 Households and businesses which want to make use of micro-generation technologies, such as solar panels, rooftop wind turbines and micro-CHP (central heating boilers that also generate electricity) face a bewildering array of hurdles. Expansion of micro-generation has

been part of government policy to tackle climate change for more than two years, but specific measures to make this happen have been slow to materialise. Some basic changes in regulations could make a significant difference. The government could shorten capital investment payback times by ensuring, for example, that consumers get paid a fair price for electricity they export to the grid. This electricity is particularly valuable at peak times when national demand is high. [7] Further financial incentives, such as the introduction of a reduction in Council Tax as proposed by the Energy Saving Trust for houses that incorporate certificated energy efficiency or micro-generation measures should also be further explored. [8]

- 3.3 Small-scale technologies could provide a substantial portion of the UK's energy needs by 2050, according to the Energy Saving Trust. [9] It could potentially provide 30-40% of the UK's total electricity needs by 2050. [10]

Gas Imports

- 3.4 The idea that building more nuclear power stations will make our energy supplies more secure than imports of gas is a fallacy. Only about 30% of UK gas supplies are currently used to generate electricity, so nuclear reactors could not replace, for example the gas we use for our central heating or cooking. Neither is nuclear power a cheap or reliable source of electricity. Professor Jonathan Stern, director of gas research at the industry-funded Oxford Institute for Energy Studies believes that importing gas is likely to be a more secure option than relying on nuclear power. Russia has never defaulted on gas supplies, and it has not been in its interest to do so. In any event, the UK is not likely to depend on Russian gas in the foreseeable future, as 'Our Energy Challenge' makes clear. Imports for the next decade or so are likely to come from Norway, Belgium and the Netherlands. The UK is also investing over £6 billion in facilities to import gas from the Middle East, Central Asia, Africa and Latin America in the future.
- 3.5 If we are serious about gas security we should be using it much more efficiently, particularly the gas we burn to generate electricity. Rather than burning it wastefully in big power stations, it should be used in local power stations, which also generate hot water that can be used for district heating. These combined heat and power plants could significantly reduce our need for gas. [11]

- 3.6 Converting coal at a power plant into incandescent light in a house is only 3 percent efficient. Most of the energy is discarded as waste heat at the power station. [12] And we burn our gas wastefully in big power stations when local power stations, which use the heat as well, could significantly reduce our need for gas. By combining the production of heat and electricity it is possible to extract twice as much useful work from gas for every ton of carbon emitted into the atmosphere. The Government should re-double its efforts to ensure these opportunities to improve efficiency are taken.
- 3.7 The Government originally set a target for Combined Heat and Power of 5 GW by 2000. This target was missed, and was only reached in 2005. Government also established, as part of the 2000 Climate Change Programme, a further target, committing itself to achieve a doubling of CHP capacity to 10 GW of CHP by 2010. With the right measures in place, the 2010 CHP target could still be achieved. A further 4.5 GW would be required by 2010 – the equivalent of effectively displacing one nuclear power plant per year. [13]

A renewable-friendly regulatory framework

- 3.8 The Renewable Obligation regime leads developers to concentrate on the least cost, lowest risk technology - onshore wind. Offshore wind and biomass do get some support through capital grants, but this mostly leaves other developing technologies in the cold. The system also excludes small-scale domestic generators.
- 3.9 If renewables are to provide 20% of our electricity by 2020 we are going to have to develop offshore wind. At the moment there is an urgent need to address the funding gap for round two offshore wind development. According to the British Wind Energy Association (BWEA) this need not necessarily involve capital grants, but it will involve some kind of support. [14] Offshore wind alone is capable of providing three times the UK's electricity requirements.
- 3.10 Similarly wave and tidal power will need support to move from the research and development stage to commercialization. The Department of Trade and Industry has a fund dedicated to this of £50 million, which will begin to make a difference, but we will need to do much more if we are to maintain our lead in these technologies against competition from Portugal and Spain in particular, who have the same comparative natural advantages as we have, but are determined to

move those investment profiles forward much faster than is currently planned in the UK. [15]

Q.3 *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?*

Radioactive waste solutions?

- 4.1 The 2003 Energy White Paper said it was not proposing new nuclear power stations because of cost and because of *"important issues of nuclear waste to be resolved"*. The Scottish Executive Partnership Agreement between the two governing Parties, Labour and the Liberal Democrats, went further saying: *"We will not support the further development of nuclear power stations while waste management issues remain unresolved."*
- 4.2 The Chair on the Committee on Radioactive Waste Management (CoRWM), Professor Gordon MacKerron, says his understanding is that this is also the position of the Westminster Government: *"The Government always made a commitment that it will need to solve the waste problem before a rebuild decision."* [16]
- 4.3 According to the Energy Review consultation document, *"CoRWM has confirmed that waste from a new build programme could be technically accommodated by the options it is considering"*. But the Government cannot legitimately use a set of recommendations by CoRWM to declare the nuclear waste problem solved. CoRWM chair, Professor Gordon MacKerron, told the Nuclear Industry Association Energy Choices Conference in December 2004 that whilst publication of the CoRWM recommendations in July 2006 might be a *"significant moment"*, it is only the beginning - the issue will not be resolved. CoRWM's draft final report (paragraph 64) states: *"If Ministers accept our recommendations, the UK's nuclear waste problem is not solved. Having a strategy is a start. The real challenge follows."* [17]
- 4.4 MacKerron says he does not wish his recommendation on the management of existing waste to be interpreted by the government as a green light for building new nuclear stations. *"We think it is important that there is a full review of the waste implications of any new-build programme, and not to take our report as somehow having managed the entire*

problem - because the politics and ethics are different, even if the technology is not." [18]

- 4.5 Ethically it should be the responsibility of the current generation, which has made use of the electricity generated by nuclear power stations, to deal with the nuclear wastes already created, as opposed to leaving them for future generations. However, it is unlikely the issue will be 'resolved' within our lifetimes. We have already burdened future generations to some degree. We are currently in a position where we can limit that burden to wastes already created. But any decision made in the future which results in new waste creating nuclear facilities will burden future generations further, and necessarily future generations have no say over this.
- 4.6 For this reason discussion of a new generation of nuclear power stations is premature, misplaced and unethical. The case for new nuclear build should not be considered until a clearly implementable waste management strategy is in place. CoRWM's draft report identifies three key steps in dealing with the nuclear waste problem:
1. Choosing the best management option.
 2. Deciding on a clear plan for implementation and how a site or sites will be selected.
 3. The most challenging step is identifying a host community and actually implementing the preferred option.

CoRWM's report in July will only deal with the first step. There will still be a long way to go after that.

Radioactive waste volumes

- 4.7 The nuclear industry says a new generation of reactors would add only 10% to the volume of radioactive waste, but this is highly misleading because the majority of existing waste is made up of bulky, less hazardous material. As the nuclear waste management body Nirex, points out, the volume is not the whole story, we also need to know what type of waste we will be left with by a programme of new reactors. [19]
- 4.8 CoRWM's latest Radioactive Waste Inventory shows that existing reactors will produce 9,900m³ of packaged high level waste and spent fuel. But ten new AP1000 reactors would leave a legacy of 31,900 m³ – three times the volumes already created. [20]

Decommissioning and long-term liabilities

- 4.9 Nuclear operators producing waste should pay for its management. Provision must be made for waste that arises after a facility has closed and stopped producing an income. Operators therefore need to accumulate adequate funds, in a segregated account, over the lifetime of a facility for long-term management. British Energy's (BE's) segregated fund proved insufficient to meet its liabilities. The Government has taken financial responsibility for around £3.3bn of its waste management and decommissioning costs. The Government needs to legislate to ensure the taxpayer does not pay for similar liabilities in future. Unfortunately the Energy Act (2004) which allowed for the BE rescue, is written generally so if "... a private sector operator cannot meet its nuclear obligations [the Government] retain[s] the possibility of ... meeting such costs." [21] Hidden subsidies, like the underwriting of future liabilities, must be ended. Private sector problems should not become public sector problems - taxpayers should not be expected to shoulder the financial burden from the private nuclear sector.

Terrorism

- 4.10 The terrorist attacks of 9/11 alerted the world to the potential of nuclear terrorism - making it "*far more likely*", according to the UN's International Atomic Energy Agency (IAEA), that terrorists could target nuclear facilities, nuclear material and radioactive sources worldwide. [22]
- 4.11 Recent events such as: (a) suspicions that terrorists in Australia may have been planning to target the research reactor at Lucas Heights, Sydney; (b) reports of a foiled Chechen plot to crash airplanes into a Russian reactor; (c) reports that detailed plans of Britain's most sensitive nuclear sites, including Sizewell, were found in a car linked to one of the London terror suspects after the July 2005 London bombing campaign; have all served to heighten concern. [23]
- 4.12 An attack on a nuclear facility could have widespread and catastrophic consequences for both the environment and public health. The extent of damage caused will depend on the type of nuclear facility, the nature of the attack, the weather conditions and the emergency measures in place, such as evacuation and shelter procedures and whether contaminated food is removed from the market. Far from providing energy security, building new nuclear reactors will present a

major threat to our national and international security and increase the risk of nuclear terrorism, by creating opportunities for terrorist organisations. We strongly take the view that nuclear power should, therefore, not be part of the UK's energy supply. [24]

Democratic accountability

4.13 Public concern over the growing threat of nuclear terrorism has led to calls from the nuclear industry to withhold information on nuclear reactors and plans for managing radioactive waste for security reasons. Such moves would serve to prevent proper public scrutiny of safety assessments for new reactors and of how the industry will cope with the highly radioactive spent fuel the reactors will produce over coming decades. Security measures associated with nuclear power are increasingly incompatible with a modern, open, transparent and democratic society. [25]

Q.4 Are there particular considerations that should apply to carbon abatement and other low-carbon technologies.

5.1 The 2003 Energy White Paper says: *“In future there will be greater emphasis on local and regional approaches in delivering our energy objectives”*. It says the Government will urge local authorities to give energy issues priority at strategic level; to take the lead, acting as catalysts for change and even review whether to include energy as a shared central-local priority.

5.2 Local government is uniquely placed with powers and services spanning the full range of activities that will need to be changed to achieve sustainability in energy use. Local government, therefore, has a key role to play in helping to meet the UK's climate change objectives. Working towards a low carbon future has multiple benefits for local authorities and their communities: improvements in health, community cohesion, social inclusion and quality of life. There are already some excellent local authority climate change initiatives, which demonstrate that responding to global environmental challenges presents local authorities with opportunities to advance sustainable community initiatives. For example, one study suggests that if 250 councils adopted Merton's positive planning policy, which expects developers to incorporate renewable energy into new buildings, the market for these technologies could be increased from £35m to £750m. [26]

- 5.3 Government needs to help and enable local authorities to respond to climate change by sending a strong message that climate change is a priority and that local authorities are key to delivering national climate change targets. The regulatory regime must be adapted to one that: enables small-scale renewable energy development, micro-generation and energy efficiency; encourages energy suppliers to become energy service companies; and seizes the opportunity that large-scale house-building presents to achieve a step change in housing sector energy demand. [27]
- 5.4 The Environmental Change Institute's '40 per cent house' research [28] concludes that it would be possible to reduce overall carbon emissions from housing by 60 per cent by 2050 provided government takes a determined and proactive approach to planning and securing the necessary changes. There is no technical reason why all new housing built in the UK could not achieve a zero net carbon standard within a few years.
- 5.5 As already suggested in part, the CO₂ emissions embedded in a typical energy intensive UK lifestyle could also be substantially reduced using existing technologies, through a combination of: energy efficiency in housing; more energy efficient household goods; locally-based renewable energy generation, waste recovery and food production; and a reduced need to travel, made possible and supported by local authority policies. Improved public awareness of energy consumption through improved public information also requires greater priority.
- 5.6 A recent survey, undertaken by the Energy Saving Trust (EST) revealed that the majority of councils felt they were making little progress on tackling climate change, blaming a lack of political will. Significantly, 67% of the councils surveyed cited a perceived lack of leadership from the government as an obstacle to progress. Others blamed a lack of funding and a shortage of staff. But as councils such as Merton and Croydon have shown, if there is political will across parties, local government can drive through changes. [29]
- 5.7 The renewable energy industry is still a new industry. It deserves Government support to help get it off the ground, unlike nuclear power that has received subsidies for the past 50 years and has failed. With extra support offshore wind can deliver significant amounts of power quickly, and with wave and tidal we have the chance to establish world-beating industries that can generate employment and wealth.

Wind energy

- 5.8 A recent report commissioned by the Department of Trade and Industry demonstrated that wind power produces more electricity at times when demand is highest, and less electricity when demand is low. This pattern of electricity production improves the reliability of wind power to meet demand. There has never been an occasion where the wind turbines would have stopped operating across the whole of the UK due to high wind speeds. Concerns have also been raised about calm conditions extending across the UK for significant periods of time that prevent wind turbines from operating, however this study found that the UK was never entirely becalmed, and that a diversified portfolio of wind power developments would deliver electricity during all hours. [30]
- 5.9 The report refutes many of the arguments about intermittency and unreliability. As the energy minister, Malcolm Wicks, has said: "This new research is a nail in the coffin of some of the exaggerated myths peddled by opponents of wind power". The Sustainable Development Commission agrees. Wind output can be accurately forecast over timeframes relevant to network operators. Increasing the proportion of wind power in the electricity system does not require greater 'back up' capacity. [31]

Offshore wind

- 5.10 Offshore wind could provide 30% of the *EU's* electricity by 2020. [32]
Around 25% of current UK electricity consumption alone could be met by offshore wind off the coast of East Anglia. [33]

Wave and tidal power

- 5.11 Marine energy could generate 20% of Britain's electricity and a global business opportunity worth £600 billion, according to UK consulting firm, Douglas-Westwood. The prospects of an entirely new industry with the associated job creation makes wave and tidal power an exciting prospect. Some experimental devices are already in the water with prospects for significant cost reduction. The scale of the opportunity is huge. [34]
- 5.12 The Carbon Trust says marine energy could generate 3% of Britain's total electricity supply by 2020, and 20% of the country's power in the

long term. It predicts the unit cost of marine renewables has the potential to decline significantly in future if there is private investment, underpinned by long-term support from government, to unlock the potential.

- 5.13 The UK is in prime position to accelerate commercial progress in the marine energy sector and secure economic value by selling marine energy devices, developing wave and tidal stream farms and creating new revenues from electricity generation. Other key factors which are likely to impact on the growth of marine energy include the availability of grid connections and network capacity, regulation and security of supply considerations. The Trust says that public support and private investment is needed now to step up the pace of marine renewables development in the UK and ensure it meets its potential. [35]

Biomass

- 5.14 The Government's Biomass Task Force identified nearly 3GW of electrical power available from biomass like straw, farm slurry and sewage. This is equivalent to around three new nuclear stations. [36]

Q.5 *What further steps should be taken towards meeting the government's goals for ensuring that every home is adequately and affordably heated?*

- 6.1 Nuclear power does not offer a solution to fuel poverty. The era of cheap domestic power is now clearly over. Energywatch reports that gas prices have gone up by 30 per cent, and electricity prices have risen by 27 per cent in the past two years threatening to offset various Government initiatives such as the Warm Deal and the Winter Fuel Payment. We know from the Scottish House Condition Survey that every five per cent increase in fuel costs drags 30,000 Scottish households back into fuel poverty. Without action fuel poverty is set to increase again. [37] But nuclear power is not the answer. Even if private investors can be persuaded that it is economic to build new reactors, the cost of the electricity produced will not be low enough to make any impact on fuel poverty and it will not, in any event, come on stream for about 15 years. Reducing the energy required by those living on low incomes to keep warm is the most effective way of tackling fuel poverty, and we have the means to do this now.
- 6.2 A staggering £271 million and 0.7MtC (million tonnes of carbon) is being wasted every year because 40 per cent of the UK's social housing

do not have cavity wall insulation, according to the Energy Saving Trust. [38] A new programme of ten new nuclear reactors would displace around 6-8MtC, so just this one measure would replace the carbon saved by one new nuclear station. With around a fifth of the country's housing stock in their hands, local authorities and housing associations have a vital role to play in tackling both climate change and fuel poverty. With a number of grants available, including offers from energy suppliers as part of the Energy Efficiency Commitment, installing insulation in their stock is one of the simplest and cheapest measures that social housing providers can implement and the Government should encourage them to put this at the heart of their housing strategies.

- 6.3 By encouraging the installation of micro-generation by public housing providers, the Government could play an important role in tackling fuel poverty by delivering affordable heat and electricity. The government's fuel poverty strategy itself has recognised the virtue of micro-CHP as regards 'hard to heat' homes. Domestic heat pumps can be a viable alternative in areas where there is no mains gas, such as northern Scotland.

Summary

- 7.1 Nuclear power only makes a very small contribution to reducing carbon dioxide emissions, which can be replaced relatively easily by implementing energy efficiency measures. Building new reactors will divert scarce resources from solutions that are not only more cost effective, but also absolutely essential to move us beyond the 2010 targets we have set for reducing carbon emissions and to steer a course to 60% reduction by 2050.
- 7.2 If we are concerned about importing gas we should be using it much more efficiently in local power stations that also generate hot water for district heating – not burning it wastefully in big power stations. These combined heat and power plants could slash our need for gas. We also need to look at policies for the whole energy system, including transport, not just electricity.
- 7.3 The Committee on Radioactive Waste Management's (CoRWM) report in July 2006, will not be a solution to the nuclear waste problem and a programme of ten new reactors will produce three times as much high level waste and spent fuel as existing reactors. New reactors could also provide a target for terrorists. The security measures required mean

that nuclear power is incompatible with a modern, open, transparent and democratic society.

- 7.4 We should instead focus on removing the barriers to energy efficiency and renewables. Look at how best to promote offshore wind, wave and tidal power as well as small-scale generation. The 2020 aspiration for renewables needs to become a firm target.
- 7.5 Local government is uniquely placed to respond to climate change by delivering small-scale renewable energy, micro-generation and energy efficiency. Large-scale house-building presents opportunities for a step change in the way we use energy. Nuclear power offers no solution to fuel poverty. Reducing the energy required by those living on low incomes to keep warm is the most effective way of tackling fuel poverty.

Postscript

- 8.1 Since the preparation of this submission the NFLAs have had the benefit of sight of:
- the Local Government Association Submission to the DTI Energy Review, 31 March 2006.
 - The Greenpeace report *Decentralising UK Energy*, March 2006, that concludes: "A decentralised, high-renewable energy system could reduce CO₂ emissions in the UK by almost 30% more by 2023 than a centralized system where ambitious installation rates for newly built nuclear power plants were pursued."
 - The Mayor of London and Greenpeace report: *Powering London into the 21st Century*, March 2006, that concludes (under the low DE model): "CO₂ emissions from London could be reduced by over 27.6% from current levels by using a range of existing DE technologies and without new nuclear stations being built."
 - RSPB Scotland, WWF Scotland and FoE Scotland Briefing *The Power of Scotland*, February 2006, that concludes: "Government has many options which would deliver emission reductions, of the scale urgently needed, from the electricity generation sector whilst avoiding the risks and problems associated with new nuclear power."

- The British Wind Energy Association press release, 24 March 2006, that reports, "...under optimistic estimates of planning approval rates and decision times, projects totaling 7,500 MW could be built by 2010...", though 6,000 MW of on shore wind (equivalent to 6 nuclear power stations) would be more realistic.
- The British Wind Energy Association report *Offshore Wind: At a Crossroads*, April 2006, that identifies: "...some 8,000 MW of offshore wind capacity that could be delivered by 2015, if a new policy impetus was put in place by Government."
- The UK Energy Research Centre assessment, 5 April 2006, that: "None of the 200+ studies UKERC reviewed suggested that the introduction of significant levels of intermittent renewable energy would lead to reduced reliability...Wide geographical dispersion and a diversity of renewable sources will keep costs down."
- The Sustainable Development Commission report *The Role of Nuclear Power in a Low Carbon Economy*, March 2006, that finds (p2): "All the scenario results suggest that it is possible to meet our energy needs in a carbon constrained economy without nuclear power" and (p18) "The 2003 Energy White Paper authoritatively established the rationale for long term energy policy based on energy efficiency, renewables and the cleaner and more efficient use of fossil fuels. We reaffirm that this strategy is a sound one and should be pursued with vigour."

8.2 The NFLAs strongly support the thrust of these thoroughly researched and detailed reports and submissions. They underscore the case that this submission has sought to make: that there is a wealth of opportunities in the energy sector to meet our future energy requirements safely, securely, sustainably and affordably, without resort to new nuclear build.

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Streamlining decision-making and participation post 9/11

1.1 The Review states in respect of nuclear energy

Cost. Market investors would make their own calculations about the viability of new nuclear investment. As the analysis shows in Annex B, cost estimates for new nuclear build vary significantly. One reason for this is that, because of the large capital investment required, a change in the discount rate can have a significant impact on the total cost of construction. Further uncertainty is created by the planning and licensing process, which can take five years or more. Subsequent reactors are likely to cost less than the first of a kind in a series.¹

The comments that follow relate to the issue of planning and licensing mentioned in the extract above.

1.2 The nuclear industry considers that delay and increased costs have hampered past decisions on new nuclear stations because of a failure to pursue all the relevant regulatory requirements in the most logical and least-time consuming way.

1.3 The lobby has been giving anxious thought about how to streamline procedures and speed up decision-making. It identifies the length of past public inquiries as the main obstacle. It therefore aims at eliminating the scope for debate in the arena of the planning inquiry by getting as many decisions on other matters decided before an inquiry begins.

1.4 In our view this analysis is mistaken and its objective misguided: there is nothing essentially wrong with the procedures, it is simply that they are likely to be used more extensively in the context of controversial proposals than with consensual ones. Nuclear technology attracts opposition and that opposition will use the formal opportunities to argue its case. This inevitably means that inquiries cannot be superficial and that both inspector and Minister may well take longer to report and make decisions because of the complexity and volume of relevant information. Proposed “solutions” to the problem of the Big Inquiry, e.g, the never used Planning Inquiry Commission or the recently proposed and rejected use of Parliament procedures, suggest that it is difficult to meet standards of fairness and rigour in any

¹ Page 65

curtailed format. The recent introduction of the power to allow simultaneous sessions on different matters at a major infrastructure planning inquiry is unlikely to be seen as fair to poorly resourced but well-informed objectors who cannot muster the resources to be at simultaneous sessions in the way that a powerful commercial developer can. Challenges to these rules on those grounds it is assumed will materialise unless proper funding for objectors is provided.

- 1.5 To curtail citizen's opportunities to participate will simply underscore the technology's association with a centralist and authoritarian and outmoded approach to the solution of modern problems.

Why curtailment will not work

The strategy argued for by the nuclear industry is unlikely to be successful:

- 2.1 European law has created further regulatory requirements aimed at protecting people and the environment, which the UK Government has agreed to, and which went unnoticed, or did not exist, at the time the last station was proposed in 1988 at Hinkley Point. These requirements have to be complied with. They cannot be short-circuited, curtailed or amended. EU requirements are at the heart of, or affect closely, the approvals listed at 1, 2, 3, 4, 5, 8, 9, 10, 12, 13, and 14 below.
- 2.2 Participation by citizens in environmental decision-making has grown vastly in importance since 1988 and is underpinned by international, EU and UK law and policy and is inescapable. Authentic participation takes up time. Where a technology attracts as much controversy as nuclear technology, it must be assumed that all opportunities for participation and challenge will be used as effectively as possible.
- 2.3 Transparency in decision-making, closely allied to the ideal of participation, is essential for legitimacy and this is critical for a controversial technology like nuclear energy. However since 9/11, it is clear that nuclear power stations are the focus of potential terrorist attacks, nuclear materials the focus of potential theft and nuclear information the focus of national and sub-national groups that entertain a desire to develop nuclear weapons. As a consequence, a secretive industry and its regulators are positively required in some respects, and have a perfect excuse in others, to be more secretive with potentially fatal consequences for participation (as in 2.2) and

transparency. This will impact on legitimacy and raise dilemmas that simply do not arise with other energy technologies or energy conservation. Objectors' rights to know will clash with industry's alleged need for secrecy. Where to draw the line will be problematic.

- 2.4 Attempts to curtail public participation in these processes cannot be advanced in isolation from similar permitting and consent regimes affecting, safety, pollution control and land use. Making a special case for nuclear would risk eroding the importance of these protective regimes more widely and be counter-productive.
- 2.5 Attempts to impose solutions top-down in the nuclear field have been widely acknowledged to be at the heart of past failures. To revert to top-down decide, announce and defend (DAD) strategies for nuclear *energy production* decisions whilst appearing to value and encourage collaborative and consultative decision-making for nuclear *waste management* decisions is illogical and will engender cynicism and will create further difficulties in resolving waste management problems.
- 2.6 Devolution has made issues in this field more complex and there are political and legal problems associated with any attempt to implement a programme of nuclear new-build in all four parts of the UK or in, for the sake of argument, just one.

The Regulatory approvals

- 3.1 If construction of a new nuclear power station were to be considered by a developer, he would wish to be sure that there were in place financial incentives or legislation to ensure that the project would be financially worthwhile. This would require:
 1. a decision by the Competition Directorate of the European Commission providing approval for such State aid. Government might require suppliers to purchase a percentage of their power from low-carbon emission sources. Such a scheme existed in the 1990s in the form of the Non-Fossil fuel obligation. Preferential treatment constitutes "state aid", and therefore an interference in the notional "level-playing field". Challenge in this area by competing energy sectors seems inevitable.

If a new nuclear power station were to be proposed for the UK, the following decisions would have to be made first: for each decision, the possibilities for public participation are briefly mentioned:

2. a decision by the Secretary of State for Trade and Industry that the new-to-the UK reactor technology concerned was justified under the Justification of Practices Involving Ionising Radiations Regulations SI 2004 No. 1769; anything less than an intensive review of all aspects of the fuel and waste cycles implicit in any new-to-the-UK reactor technology as well as its operation would be legally highly questionable; a public inquiry would be necessary in view of commitments made; this would be strongly pursued by all opposing interests: any decision favouring the technology would require to be made in the form of new regulations requiring parliamentary approval; it is not clear that this would be forthcoming and this is likely to prove politically controversial and constitutionally invidious, particularly if Scots and Welsh and N. Irish MPs vote, in effect, to impose new nuclear plant on England alone;
3. a decision that the environmental impacts of the plant and alternatives to its siting or to its method of generating electricity had been properly set out in an environmental (impact) statement produced by the developer to accompany the application for the consent referred to next in accordance with the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 or its Scottish equivalent; the public must be consulted on the statement; it will be necessary for there to be placed in the public domain complete information on all relevant impacts on the environment and people, short-term and long-term, on-site and off-site: attempts to avoid providing full information on (a) safety issues affecting workers and the public, (b) the threat of accidents, (c) alternative sites and methods of achieving the energy objective asserted to be achievable through any construction of any particular nuclear plant and (d) long-term radioactive waste management plans, would be likely to attract litigation up to and including the European Court of Justice.
4. a decision by the Secretary of State for Trade and Industry (for England and Wales), or Scottish Ministers, to grant consent for the construction of the station under section 36 Electricity Act 1989; the public must be consulted on the application; a public inquiry must be held if the local planning authority objects and maintains its objection and may be held in any event; all concerned agree that there would be an inquiry;

possibly a decision by the Secretary of State for Trade and Industry/Scottish Ministers in connection with transmission lines under section 37 of the Electricity Act 1989;

5. a direction of the Secretary of State for Trade and Industry/Scottish Ministers under Schedule 8 Paragraph 7 Electricity Act 1989, or its Scottish equivalent, that planning permission be deemed to be granted for the development comprised in the construction of the station and, if necessary, in connection with transmission lines. The basis for the exercise of the discretion in this context, assumed to be unproblematic, would be scrupulously reviewed perhaps for the first time;
6. possibly a decision by the Secretary of State for Trade and Industry/Scottish Ministers to confirm a compulsory purchase order if one was required;
7. a decision by the Nuclear Installations Inspectorate (of the Health and Safety Executive) to grant/extend a nuclear site licence under section 7 of the Nuclear Installations Act 1965 or the governing condition of a current licence; there is no effective statutory provision for public consultation and no past practice whatever of public consultation. Section 14 of the Health and Safety at Work Act 1974 provides a wide ranging power to hold inquiries into health and safety that could be used to allow safety matters to be properly considered. This should be used. If an inquiry were not held, the entirely secretive process of licensing is likely to come under intense criticism and public scrutiny as its secretive nature is entirely out of accord with public policy and government commitments to openness, participation and transparency. Controversy over access to information is very likely.

If a new station were to be operated, the following decisions would have to be made first:

8. the authorisation of the Environment Agency (England and Wales)/ Scottish Environment Protection Agency (SEPA) would be required for the discharge of radioactive waste materials under section 13 Radioactive Substances Act 1993; there is a long-standing practice of public consultation; and a power to hold a public inquiry;
9. an IPPC permit would be required to govern non-radioactive aspects of pollution control; the public must be consulted on these;

10. the approval of both an on-site (Regulation 7) and off-site emergency plan (Regulation 9) will be required from the Health and Safety Executive under the Radiation (Emergency Preparedness and Public Information) Regulations; there is provision for local authorities to consult the public in the preparation of the off-site plan if they choose; in the United States on occasion local authorities charged to prepare off-site emergency plans as a prerequisite for station operation have found it impossible to do so for legal and practical reasons, preventing station operation;
11. the approval of a site security plan by the Office of Civil Nuclear Security of the Department of Trade and Industry under regulation 4 of the Nuclear Industries Security Regulations 2003; there is no provision for public consultation;

If approval of the application for consent under the Electricity Act 1989 is to be secured, an applicant would wish to demonstrate that:

- a. the licence at 7, authorisation at 8, permit at 9 and plans at 10 and 11 had already been granted or that the regulators concerned saw essentially no obstacle to their being granted/approved in due course; this has proved problematic in the past, for example as to 7, because the licensing process may be insufficiently advanced for a clear view to be expressed; additionally because the licensing process has been conducted entirely in secret until now, it has been necessary to ensure the attendance of NII inspectors at any public inquiry so it may be properly informed on safety issues; this would apply again unless the licensing system is altered.
- b. the construction of the plant would be consistent with:
 - land-use planning policies for the area at national, regional and local level
 - national energy policy
 - national radioactive waste policy.

Demonstrating this would be made more difficult if up-to-date policies have not been formulated or are silent on the specific issue of nuclear plant.

12/13/14 Approvals would be necessary for these three areas of policy referred to immediately above.

The formulation of the three types of policy (land use, energy and waste) is subject to the Strategic Environmental Assessment Directive. Decisions on these policies could only be taken after compliance with the requirements of that Directive. These provide for public consultation and the description of alternatives. Policies requiring SEA are not valid unless the Directive's requirements are complied with.

15. To construct and commission the plant would require further approvals.

The uncertainties

Major uncertainties arise from the facts that:

- the procedures for considering "justification" have not been used extensively yet;
- there is no legal process for establishing that a class of reactor is licensable until an application for a licence for a particular *site* has been made; granting a licence does not depend on the reactor technology alone but on the assessed competence of the intended operator, the characteristics of the locality, e.g. population density, and on how the existence of a continuing commitment to safety improvements (arising from the ALARA principle), which is not frozen in time, is applied at any one moment; any new framework for licensing plant alone in isolation from these three other factors seems likely to make little difference in practice, would require primary legislation, and if implemented would have to build in provision to meet the Government's own specific policy that improved access to information and wider participation of the public in decision-making processes are essential for building trust within communities, increasing public authority accountability and making better environmental policy. A new pre-licensing process is far less of an issue than the fact that there are not sufficient highly-trained personnel to provide staff for an expanded regulatory function and for any new would-be licencees;

- the current nuclear site licensing process lacks public legitimacy because, as indicated above, HSE rejects all public participation or scrutiny; HSE does not require statutory authority to open up its procedures, any more than the Environment Agency has done under the RSA: its refusal to do so, divorces it from modern trends and seems bound to lead to challenge;
- the allocation to the Secretary of State for Trade and Industry of decisions as to justification and consent under the Electricity Act create conflicts of interest and potential bias which may be incompatible with administrative fairness and international law;
- any restrictions of access to information on the basis of alleged security hazards risk appeal to the Information Commissioner, Information Tribunal, courts and the Aarhus Convention Compliance Committee;
- the suggestion that certain matters can be eliminated from or served up as cut and dried at a public inquiry ignores European environmental law and would be challenged;
- any restriction on access to information or attendance by objectors at a public inquiry will risk challenge under Article 6 of the ECHR;
- the application of the Strategic Environmental Assessment Directive is novel and its exact implications remain to be determined: legal caution will assume it applies to the three areas of policy concerned; those desiring to reduce time constraints may wish to ignore such advice;
- devolution is likely to create scope for different policies and laws;
- there is consequently scope for much litigation by a much more knowledgeable and better-equipped opposition than existed when previous nuclear projects were progressed. It is no longer environmentalists that have concerns; other energy industry sectors also have legitimate economic anxieties.