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Response from *Kick Nuclear* to the Department for Energy and Climate Change (DECC) consultation on the revised draft National Policy Statements for energy infrastructure – January 2011

This is a collective response from *Kick Nuclear*, a London-based group formed in 2010 to campaign against nuclear power and support sustainable alternatives. Eight regular members of the organising group have had the opportunity to contribute to this document. We acknowledge *Nuclear-Free Local Authorities* as the source of some of the material contained herein. [1]

Overall energy strategy

There needs to be a much wider debate about the implications of moving towards an all electric society by 2030 than is offered by this consultation.

The Government simply asserts that decentralised and community energy systems are unlikely to lead to significant replacement of larger-scale infrastructure, without undertaking any proper assessment of how scenarios based on these would compare with ones based on a new nuclear programme. It ignores alternative, non-nuclear zero or low carbon scenarios such as the Centre for Alternative Technology's Zero Carbon Britain 2030 report, and scenarios proposed by Greenpeace. [2, 3]

The Government does not explain how its nuclear electric energy policy will tackle fuel poverty compared with a scenario based on decentralised energy.

The Government needs to clarify the status of the Renewable Energy Strategy and Low Carbon Transition Plan as a matter of urgency.

NUCLEAR POWER

Health and environmental risks associated with the nuclear cycle

The entire nuclear cycle upon which nuclear power plants depend is responsible for wide scale contamination of the environment long after any nuclear plant ceases to operate. In considering the toxic legacy of nuclear power, one must include uranium mining, milling, enrichment and fuel fabrication; transportation of hazardous nuclear materials around the world; power plant construction, operation and decommissioning; and the long-term management of radioactive and other hazardous waste, including from reprocessing where this occurs. Various stages of the nuclear cycle adversely affect populations and ecosystems in many parts of the world. For example, indigenous communities in Australia, North America and Niger are afflicted by the toxic legacy of uranium extraction, which often takes place on ancestral land they regard as sacred. The dangers and harmful effects attributable to contamination of the environment with nuclear materials can persist for thousands of years, and genetic damage can pass from generation to generation.

KiKK study

The Appraisal of Sustainability needs to examine alternative viewpoints on the German KiKK study to that put forward by COMARE. In addition, no final decisions should be taken regarding new reactors until the forthcoming COMARE report has been subjected to a full critique.

Risk of weapons proliferation

The Government must take into serious consideration the relationship between its promotion of nuclear energy at home and internationally and the worldwide proliferation of nuclear weapons and increased availability of fissile materials. By encouraging nuclear power expansion in the UK and promoting and facilitating the global spread of dual civilian- and military-use nuclear technology, we create the conditions for an increasing number of states to acquire the means to develop nuclear weapons, ultimately increasing the risk of nuclear war.

The UK Government has recently arranged nuclear deals with India, a country that has not signed the nuclear Non-Proliferation Treaty and possesses nuclear weapons outside of any international controls, and which is actively testing new nuclear-capable missiles. Such behaviour by UK Governments demonstrates an often reckless and blasé attitude towards the perils of nuclear power and its expansion, both domestically and internationally, suggesting that they place business interests above those of international security and their obligations and responsibilities under international law.

The link between nuclear power and nuclear weapons is evident in the case of Iran. At the core of this international controversy is the same technology that the UK Government enthusiastically promotes for itself and other countries.

Lifecycle emissions

The Government does not appear to take into account the most recent independent assessments of greenhouse gas emissions from the entire nuclear cycle. For example, in an analysis of over 100 life cycle studies, *Sovacool* obtained an average figure of 66g CO_2 equivalent/kWh, [4] which is three times higher than the upper estimate quoted in EN-1 (section 3.5.5). Furthermore, the Government appears to have made no assessment of the extent to which greenhouse gas emissions from the nuclear cycle would rise as higher grade uranium ores became depleted. Hence, the Government's claims that the lifecycle emissions from nuclear power are similar to those of wind are patently flawed. In fact, the current lifecycle greenhouse gas emissions from nuclear power reactors are higher than all renewable forms of energy. *Sovacool* concludes that renewable electricity technologies are "*two to seven times more effective than nuclear power plants on a per kWh basis at fighting climate change*." As higher grade uranium ores become depleted over time, the greenhouse gas emissions from nuclear power are likely to rise to the levels of gas-powered plants without carbon capture and storage.

Reliability

The suggestion is made in EN-1 that nuclear power is "*dependable*" (3.5.7), and that it will "*reduce exposure to the risks of supply interruptions.*" (3.5.3) On the contrary, recent experiences with Sizewell B – the newest nuclear reactor and only PWR-type in the UK, like the proposed EPR and AP1000 designs - and various other reactors in the UK, France and elsewhere show that nuclear reactors are prone to frequent malfunctions and are vulnerable to climatic conditions. Sizewell B and other UK reactors have, in recent years, had to go offline for many months at a time because of

reactor malfunctions and other problems. Sizewell B was offline for a period of over 6 months in 2010 alone. It is therefore incorrect to claim that nuclear power is "dependable".

Security

A mechanism needs to be found to give assurances that the Government has carried out threat assessments and an assessment of the environmental impact of a range of malevolent acts. It can otherwise only be assumed that these issues are being ignored. Given the existence of low-carbon alternatives that are preferable on other grounds, the Government must give strong reasons to justify building new nuclear power stations given the unique risks involved.

Emergency planning

There needs to be a much more thorough consideration of the impacts of developing new nuclear reactors on local and wider emergency planning responses, particularly given the potential for wide-area flooding incidents, other serious incidents and perceived gaps with the transportation of nuclear materials. A review of the UK nuclear emergency planning regime and a widening of the remit of the Nuclear Emergency Planning Liaison Group should be considered as a corollary to this consultation.

Waste management

There is still no clarity for communities around proposed new reactors about how waste would be managed - whether or not there would be a waste encapsulation plant, for instance.

Existing proposals mean that spent nuclear fuel might well be stored on new reactor sites for 110 years or longer – hardly 'interim storage'. There will still be several lifetimes between the commencement of a power station's operation and the eventual removal of waste from that site.

The Government needs to clarify how the public will be able to put forward evidence and cross examine witnesses with regard to plans to build a deep geological disposal facility.

Statements claiming that there is an international consensus on deep geological disposal of nuclear waste are based on the collective views of proponents, rather than on an objective analysis of the existing scientific evidence.

The Appraisal of Sustainability on Hazardous and Radioactive Waste needs to be rewritten to take account of the likelihood of a 16GW nuclear programme, and the probability that two nuclear waste repositories would be required.

Capital costs

The Government has not taken into account recent increases in the capital cost of new reactors, which appear to have tripled from around $2,000/kW to $6,000/kW since 2008.

Time factors

Nuclear power will come online too late to be of benefit for the UK in meeting its emissions targets or filling the predicted energy gap. The Government says it is confident that new nuclear power stations can start to be deployed from 2018, and that France has already demonstrated that it is technically feasible to build nuclear power stations at the rate that would be needed in the UK if new nuclear power stations were to be constructed on all of the sites listed in the revised draft

Nuclear NPS before the end of 2025. The Government's confidence is remarkable given the experience so far with new reactor construction in Finland and France, which are years behind schedule and billions of pounds over budget.

We also refer you to the 2007 report from Corporate Watch, *Broken Promises: Why the nuclear industry won't deliver*, which catalogues the appalling track record of the UK nuclear industry in delivering new nuclear reactors. [5]

In the event that any new nuclear power stations are built, it is unlikely that they would come into operation before 2019, and so they could not in any way assist with the energy gap that Ofgem has said may arise in 2015.

Planning process

The Government and nuclear industry appear to treat new nuclear as a *fait accompli*. This is clearly illustrated in the case of Hinkley Point in West Somerset. Energy company EDF began carrying out ground testing on the proposed site for new reactors at Hinkley Point in the spring of 2010. In December 2010, EDF submitted an application to West Somerset District Council for extensive preliminary works at a site ear-marked for two new EPRs, despite the facts that:

a) The National Policy Statements on Energy Infrastructure (the subject of this consultation), including EN-1 and EN-6 that are relevant to nuclear power, and the associated Appraisals of Sustainability, have not been finalised, or approved by Parliament;

b) The Nuclear Installation Inspectorate's Generic Design Assessment for the EPR design has, at the time of writing, not been concluded, significant issues having been raised in relation to its safety by nuclear regulators in three countries, plus others (e.g. the French national network *Sortir du Nucléaire*);

c) EDF has not, at the time of writing, submitted a formal application for any new nuclear reactor to the Infrastructure Planning Commission.

We find it wholly unacceptable that an energy company can put the cart before the horse in this way, and we would seek to question the legality of the process being followed.

Subsidies and incentives

The Government plans to incentivise nuclear power against the spirit of earlier commitments not to subsidise this technology. These financial incentives include a carbon floor price (and note the fact that the Government figures for the carbon emissions from nuclear power are too low, as stated above), capacity payments, and limits to the amounts that nuclear energy suppliers will have to pay for the long-term handling of their waste and reactor decommissioning. In addition, the taxpayer would have to foot the majority of the bill in the event of a Chernobyl-style accident, which could amount to many billions of pounds. We are also concerned about recent press reports suggesting that the "Green" Investment Bank may focus a significant amount of its resources on nuclear energy, [6] which is a mature technology that should not benefit from "start up" funding at the expense of the taxpayer, and which we consider to be anything but "green."

Energy consumers and taxpayers would be forced to fund a very costly and unsustainable technology that generates large quantities of waste that remains lethal and harmful to health and the environment for thousands of years, and for which no long-term management solution exists. This is despite the fact that cheaper and lower carbon technologies are available that are capable of

reducing greenhouse gas emissions more rapidly, more effectively and with none of the dangers and problems associated with nuclear power.

Necessity for nuclear

In respect of long-term electricity needs, DECC wrote to the *Sustainable Energy Partnership* on 10 December 2009 that *"DECC has not made any long-term projections of electricity demand/supply" and that "our latest projections were published up to 2022... and DECC is developing scenarios of potential electricity demand/supply to 2050 but don't have any definite figures for this yet."*

Statements made by the Government that it has already decided that new nuclear power stations are needed to satisfy future demand for electricity is a perverse way of making policy, whereby large infrastructure is built before an assessment of the long-term need for it has been made.

The Government must not permit any new nuclear power stations to be built at the very least until there has been a parliamentary and public investigation into the need for any new nuclear power stations and related matters, including their lifetime cost, effect on electricity prices and fuel bills, and on whether they, or alternatives to nuclear, are the best ways to reduce greenhouse gas emissions and create jobs in the energy sector.

Opportunity cost of nuclear

A fully-referenced 2009 report by Pete Roche examines how focusing on nuclear power as a source of energy actually undermines efforts to combat climate change, and demonstrates that there are far more cost-effective, efficient and quicker-to-implement measures for reducing greenhouse gas emissions than nuclear power. [7]

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