

## Index

<b>Justification of the continued development of the peaceful use of nuclear energy</b>	<b>2</b>
<b>Lesotho Highland Water Project</b>	<b>13</b>
<b>Draft Natural Environment And Rural Communities Bill</b>	<b>16</b>
<b>European Environmental Law Website and EEL News Service</b>	<b>16</b>
<b>Northern Ireland – towards an independent environment agency</b>	<b>17</b>
<b>Land Remediation – Reality or Toy Town?</b>	<b>17</b>
<b>Report on Working Parties</b>	<b>19</b>
<b>Working Party Activity</b>	<b>20</b>
<b>East Anglia Regional Group</b>	<b>21</b>
<b>Training events latest</b>	<b>22</b>
<b>UKELA Moot 2005 - Finals</b>	<b>22</b>
<b>UKELA Annual Conference Programme</b>	<b>24</b>
<b>Society for the Environment- should UKELA become a member?</b>	<b>26</b>
<b>EEL Events</b>	<b>29</b>



## JUSTIFICATION OF THE CONTINUED DEVELOPMENT OF THE PEACEFUL USE OF NUCLEAR ENERGY

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### **Abstract**

The requirement under European law for new nuclear practices to be justified opens new nuclear electric generation to tests of sustainability. The IAEA view is that the essence of the Bruntland Report's definition of sustainable development is the importance of expanding possibilities and keeping options open and not foreclosing them for future generations. In line with the Agenda 21 principle of differentiated responsibilities among countries who are able and willing, keeping the nuclear option open is particularly important in broadening the resource base, reducing harmful emissions, expanding electricity supplies and increasing the world's technological and human capital.

This paper examines the argument for justification of nuclear electric power development: its practicability, economic and new build; effects on health; safety; security; the environment; and identifies issues and opportunities to overcome barriers to its development. Within the issues uncertainties are identified in the areas of health and security that must be acknowledged and tackled from an international base. The after-effects of the Chernobyl accident on health are becoming apparent and while nuclear energy can contribute significantly to easing world poverty, the perceptions of the public, the practicalities of deployment and the association of nuclear energy with nuclear weapons form seemingly insuperable obstacles that cause a significant section of the developed world to exclude the use of nuclear energy by delaying or denying its future development. The UN has recognised that the issues facing the international community go far beyond fighting wars and must include, *inter alia*, campaigns to fight poverty, environmental destruction and weapons proliferation and has suggested overhauling the international system to prevent the spread of nuclear weapons.<sup>1</sup>

The practicalities of deployment of nuclear energy to offset world poverty are discussed; principle objectives identified and legal measures to overcome barriers to the continuing development of nuclear energy are suggested.

### **Sustainable Development**

The question is whether nuclear electric power is sustainable. The glib response could be that it must be since the sun is powered by nuclear energy and all terrestrial energy sources stem from or are dependent upon energy from the sun. The IAEA view is that the essence of the Bruntland Report's definition of sustainable development is the importance of expanding possibilities and keeping options open, not foreclosing them for future generations. In line with the Agenda 21 principle of differentiated responsibilities among countries who are able and willing, keeping the nuclear option open has a particularly important role to play in broadening the resource base, reducing harmful emissions, expanding electricity supplies and increasing the world's technological and human capital.<sup>2</sup>

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<sup>1</sup> The Associated Press, 1 December 2004, 'Panel Calls for Sweeping U.N. Reform' The New York Times.

<sup>2</sup> IAEA, 'Nuclear Power and Sustainable Development', 02-01574/FS Series 3/01/E/ Rev 1. Division of Public Information, IAEA Vienna.

‘The development of nuclear power broadens the natural resource base usable for energy production, increases human and man-made capital and, when safely handled, has little impact on ecosystems’

In the United Kingdom a new generation of nuclear reactors would be considered as a new class of practice<sup>3</sup> under *The Justification of Practices Regulations 2004*<sup>4</sup> that requires the Justifying Authority<sup>5</sup>, a short way of referring to the Secretary of State acting together with the Devolved Administrations, to determine that it is justified and that would require, *inter alia*, that a number of government sustainability objectives be satisfied, namely to:<sup>6</sup>

- Satisfy the requirement of ‘practicability’ in that it prudently uses natural resources and maintains high and stable economic growth and employment;
- Promote social progress that recognises the needs of everyone in that it is not ‘harmful to health’, is ‘safe and secure’; and
- Afford effective protection of the environment.

Specifically, the concerns about nuclear weapons, terrorism, persistent low-level radiation and the disposal of radioactive waste must be adequately satisfied. The question of whether nuclear electric power is sustainable is finally a government decision after taking into account the circumstances presented by the responses to these concerns.

### **The Practicability of Nuclear Electric Power**

That nuclear electric power is practicable has been established beyond doubt by the fact that a significant proportion of electricity in major areas of the world is generated from nuclear energy. The International Atomic Energy Agency (IAEA) noted<sup>7</sup> in June 2004 that one sixth of the world’s electricity in 30 countries was produced from nuclear energy. However, practicability also implies that nuclear power can be produced economically; that improvements can be made to minimise waste and decommissioning clean-ups; and that it can be adapted for practicable use in locations that need power and clean water but have technology, infrastructure, political and geographic challenges.

### **Economics**

Many of the arguments about the cost of nuclear electricity focus on the historic costs of clean up, decommissioning and disposal of waste. It is clear that such historical costs associated with the development of nuclear energy, the research facilities, pilot plants, waste storage, fuel reprocessing and decommissioning are not included in the price that is paid for electricity. In the UK the government has taken the initiative to absorb those costs within its own responsibility through the Nuclear

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<sup>3</sup> *ibid* Regulation 4

<sup>4</sup> [\*The Justification of Practices Involving Ionising Radiation Regulations 2004 \(SI 2004/1769\)\*](#) came into force on 2 August 2004.

The Regulations transpose into UK law the justification requirements of two European Directives which protect the health of individuals against the dangers of ionising radiation. These are:

Council Directive 96/26/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation.

Council Directive 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionizing radiation in relation to medical exposure, and repealing Directive 84/466/Euratom.

Under these Directives, what is required to be justified is a particular class or type of practice and not individual uses. For new classes or types of practice (activity) (i.e. those which are undertaken for the first time after the 1996 Directive came into force on 13 May 2000), justification is required in advance of their being first adopted. Existing classes or types of practice (i.e. those which were being undertaken prior to 13 May 2000) may be reviewed to see if they are justified or not whenever new and important evidence about their efficacy or consequences is acquired.

<sup>5</sup> *ibid* Regulation 6

<sup>6</sup> These points are taken from ‘A Better Quality of Life’ CM 4345, DETR 1999.

<sup>7</sup> Wedekind L., IAEA Bulletin Volume 46, No.1. June 2004, IAEA Vienna.

Decommissioning Authority (NDA).<sup>8</sup> Past costs of nuclear development in the UK have already been borne by the taxpayer but for a short period after privatisation and the liberalisation of the power sector it was expected that such future costs would be absorbed by the utilities. The cost of insuring against the liabilities associated with a nuclear accident up to £500 million per plant is included in the price of electricity. However, to avoid the threatened bankruptcy of British Energy, government aid for decommissioning their nuclear plants has been approved by the European Commission<sup>9</sup> as part of a restructuring plan.

Historic costs are identifiable in the case of nuclear energy and may be compared with the unidentified, probably unidentifiable, costs of clean up of other industries such as the coal industry, railways and power plants associated with coal-fired electricity generation and the as yet to be identified cost of wind generation. It is reasonable in responding to challenges to the cost of nuclear electricity to do so in the light of future costs of other sources of energy using a similar platform including external costs. For example, the cost of electricity from gas would include the external cost of impacts on public and occupational health and global warming from the emissions of NOX, methane and CO2 during construction and operation of gas supplies and power plant and from offshore activities, including flaring, offshore energy use and leakage of gas from pipelines.

Based on this 'level playing field' approach applied to all other sources of energy an analysis by the Royal Academy of Engineering reveals that the current cost of nuclear electricity, taking into account an allowance for decommissioning,<sup>10</sup> is comparable with wind, coal and oil sourced electrical generation. Gas is the most economic<sup>11</sup> but future cost escalation would be necessary to cover the cost of the effect of greenhouse gas emissions,<sup>12</sup> the inevitable need for storage of imported gas, redundant pipelines and security to ensure secure supplies from overseas sources, not to mention the opportunity gas suppliers could take to exploit shortages and increase prices. The Extern-E project shows that the cost of externalities per kWh in Germany, for example, associated with wind power is 0.05 cents (not including the cost of the necessary back-up generation), oil 5-8 cents, natural gas 1-2 cents and throughout Europe for nuclear energy 0.2-0.7 cents.<sup>13</sup> Taking into account the possible efficiency improvements in future nuclear fuel cycle and electricity production, the plentiful supply of uranium for which there is only a military alternative use, the efficient use of land and minimal fuel transport cost, it would be imprudent to discount nuclear electricity on economic grounds. This was highlighted in a debate at the European Nuclear Assembly where Luis Echàvarri, Director General of the OECD Nuclear Energy Agency (NEA) said that;

'the competitiveness of nuclear energy continues to improve. If the decision to include nuclear in the energy mix is made on economic grounds alone, then the case for nuclear energy can be compelling'.<sup>14</sup>

### **New Nuclear Build**

The price of nuclear electricity is directly affected by the high capital depreciation caused by the costs of construction, influenced to a large extent by the discount rate. To counter this, future reactor systems will

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<sup>8</sup> Created by the *Energy Act 2004*.

<sup>9</sup> Commission News Release IP/04/1125 Brussels, 22 September 2004

<sup>10</sup> *Costs of Generating Electricity*, March 2004, A commentary on a study carried out by PB Power for the Royal Academy of Engineering. Page 3 Fig 2. [[www.raeng.org.uk](http://www.raeng.org.uk)]

<sup>11</sup> *ibid* Page 6 Fig 3

<sup>12</sup> Since 1975 the CO2 avoided by British Energy nuclear generation is 800 million tonnes. In 2002 257,000 tonnes of SO2 and NOX was avoided by nuclear generation. British Energy Report for 2003/4.

<sup>13</sup> For details of all EU Members and externalities of all power sources see [[Http://externe.jrc.es/index.html](http://externe.jrc.es/index.html)]

<sup>14</sup> NEA Communiqué, 25 November 2004, 'The Economic Case for Nuclear is Compelling', NEA/COM(2004)8, OECD Paris.

have to reduce capital costs and construction programme times by increasing factory assembly, modular construction,<sup>15</sup> longer operating lives up to 60 years and smaller units.

Two stages of development, third and fourth generation, are envisaged: third generation being improvements of the current water-cooled reactor systems and fourth generation being the extension to a commercial stage of high temperature research reactors.

Examples of the third generation are the European Pressurised Water Reactor (EPR) and the Advanced Pressurised Water Reactor (APR) both of which use proven technology building on over 30 years of operating PWR experience. The EPR<sup>16 17</sup> is based on standards rendering impossible the kinds of features seen as reference accidents in past designs,<sup>18</sup> has increased efficiency, a life expectancy of 50 years and is designed to be able to consume mixed oxide (MOX) fuel to a greater extent than current designs,<sup>19</sup> thus reusing plutonium. An EPR is being constructed in Finland and is under consideration for construction in France.

The APR<sup>20</sup> has passive safety features and extensive plant simplifications to enhance construction, maintenance and operation. The APR has received design approval from the US Nuclear Regulatory Commission (NRC).

Generation four include high temperature reactors being developed in the US and South Africa. The gas turbine helium cooled reactor<sup>21</sup> is based on HTGR technology developed over the past 40 years and is planned to be built at the Idaho National Engineering and Environmental Laboratory to demonstrate passive safety, high efficiency electricity generation and the use of high temperature nuclear heat for the production of hydrogen. In South Africa a demonstration Pebble Bed Modular Reactor (PBMR)<sup>22</sup> based on the German High Temperature Reactor development programme is forecast to be in operation in 2010. The design has passive safety using particle fuel with a negative temperature coefficient and large thermal capacity. The design is modular in 165 MWe units and has a 24-month construction programme. All of the spent fuel for the life of the plant can be stored on site.

Further research into fourth generation reactors aims at developing new concepts that would reduce waste, extend fuel life and lower production costs. At higher operating temperatures power plants can become a source of heat for co-generation in industrial applications. Coastal power plants could be used for large-scale seawater desalination. With temperatures above 900 degrees centigrade the recovered heat would allow the production of hydrogen. In the much longer term thermonuclear fusion would remove doubts about energy supplies. The development of small floating nuclear stations<sup>23</sup> and the use of reverse osmosis for desalination gives the possibility of taking power and clean water to coastal states and areas accessible by large rivers. The use of waste heat from used fuel storage facilities and from glassified high-level waste, given acceptance of low-level radiation exposure, would offer sustainable domestic heating. Clearly these latter concepts will require radical changes to the ownership of plants

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<sup>15</sup> Modular construction allows a multiunit power station made up from standard modules, each capable of independent operation and so allowing a small unit size, say 150 MWe to be used in areas with less energy density and for a staged build of larger stations where there is greater demand.

<sup>16</sup> RTD Info No.40, Feb 2004, p12.

<sup>17</sup> Flin D., 'Emerging from the shadows', The Power Engineer. June/July 2004, pp 14 – 17 IEE.

<sup>18</sup> In particular the loss of reactor cooling water.

<sup>19</sup> All current LWR designs can use MOX – but are generally limited to about 30% of core loading.

<sup>20</sup> Matzie R.A. and Worrall A. (2004), The AP1000 reactor – the nuclear renaissance option, Nuclear Energy, Vol. 43, No. 1. BNES.

<sup>21</sup> La Bar M.P. et al, (2004), The gas turbine modular helium reactor, Nuclear Energy Vol. 43, No. 3, pp165 – 175.

<sup>22</sup> Ion S. et al, (2004), Pebble bed modular reactor the first generation IV to be constructed, Nuclear Engineering Vol. 43 No. 1 pp 55 – 62.

<sup>23</sup> Russian News and Information Agency, 'From nuclear icebreakers to floating nuclear power plants', 12 October 2004.

and may of necessity require international control. The idea of providing a service as opposed to supplying a plant, i.e. guaranteed electricity and water, could be a solution. Two interesting projects are at the early stages of development.<sup>24</sup> A Small, Sealed, Transportable, Autonomous Reactor (SSTAR) that could be deployed anywhere in the world is in the pre-conceptual stage of design at the Lawrence Livermore Nuclear Laboratories in California. A feature of the SSTAR would be its long core life that should not need to be replaced for 30 years. A second project supported by the Japanese Central Research Institute of Electrical Power Industry (CRIEPI) and Toshiba is the Super Safety, Small and Simple Reactor (4S). Preliminary conceptual designs have been completed at 10MW and 50MW power levels. A possible practical application for a 10MW 4S Reactor would be the city of Galena in Alaska.<sup>25</sup>

Nuclear electric power is practicable, economic and offers future improvements, prudently uses natural resources and offers to maintain high and stable economic growth and employment and on this count should continue to provide a significant part of the UK energy source and support to the needs of the third world through technological development and supply.

### **Health Effects of Nuclear Energy**

Even though radiation is easily identified, pollution from radioactive materials is feared and held as a reason for curtailing or even ceasing the use of nuclear energy. This view is in spite of the fact that much is known about the medical and environmental effects of radiation and that radioactive materials are better regulated than any other pollutant. Less is known about the medical effects of over 30,000 chemicals<sup>26</sup> that are used in sufficiently high volume (one tonne or more per year) to require registration. Many of the chemical substances identified as of high concern have the same qualities that make the public fearful of radiation including those that: cause cancer and mutations; harm reproduction; are toxic, persistent and bio-accumulative; and cause serious and irreversible effects to humans or the environment. Only now as a result of the EC Directive 1999/45/EC (the REACH Directive)<sup>27</sup> is the identification and registration of these substances being tackled. Even though they possess similar properties to radioactive materials, with a major exception that many do not decay with time, these substances are accepted as necessary to our way of life.

Radiation from radioactive substances has been regulated on the recommendations of the International Commission on Radiation Protection (ICRP) adopted in the UK since 1958. The main objective of the ICRP recommendations is to provide an appropriate standard of protection for man without unduly limiting the beneficial practices giving rise to radiation exposure. The membership of the ICRP comprises a majority of scientists and consequently has been criticised as being biased in favour of the use of radioactive processes and has also been criticised for underestimating the dangers of low-level radiation. This view is understandable but one must also ask why scientists, since they work with radiation, should risk their own health. The members of the ICRP are independent and have no commercial interest in the application of radiation practices. Nevertheless the ICRP in reviewing and updating its recommendations now adopts a consultation process giving the opportunity to the wider public to influence their recommendations.

There are two types of radiation effects to be protected against. High doses will cause inevitable harm (deterministic effect) that does not appear if the dose does not exceed a threshold value. The primary protection policy is then to prevent high doses. Both high and low doses may cause randomly occurring (stochastic) cancers and hereditary disorders. At low doses of the order of those caused by natural

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<sup>24</sup> Keri Allan, 'Pocket Power', IEE Power Engineer, December/January 2004/5 pp22-23.

<sup>25</sup> Small Alaska Village Eyeing Nuclear Power, Reuters, February 04, 2005.

<sup>26</sup> A 'postnote' from the Parliamentary Office of Science and Technology; 'EU Chemicals Policy' September 2004, Number 229. [www.parliament.uk/post/home.html]

<sup>27</sup> [http://europa.eu.int/eur-lex/en/com/pdf/2003/com2003\\_0644en.html](http://europa.eu.int/eur-lex/en/com/pdf/2003/com2003_0644en.html)

sources of radiation these effects will occur only with a small probability, which is judged by the ICRP to be in proportion to dose (the linear, non-threshold dose response relationship). The major implication of this relationship is that, as zero risk is not an option, some finite risk must be accepted at any level of protection. This leads to the basic system of protection comprising three principles:

- the justification of a practice that implies doing more good than harm;
- the optimisation of protection that implies maximising the margin of good over harm; and
- the use of dose limits that implies an adequate standard of protection even for the most highly exposed individuals.

The justification of a practice requires an assessment, which until October 2000 was taken on a site-by-site basis by the Environment Agency. The Basic Safety Standards Directive<sup>28</sup> contains a clear requirement for the generic justification of classes or types of practice and this led the government to announce in October 2000 that it would be more appropriate for justification decisions to be taken by the Secretary of State with expertise in the particular subject e.g. health. This is now embodied in the *Justification of Practices Involving Ionising Radiation Regulations 2004*, which came into force in August 2004.

There is opposition to the ICRP recommendations; the environmental group Green Audit claim that evidence of cancers near nuclear power stations and other nuclear facilities demonstrates the hazard of the release of low-level radiation below that justified by the regulatory authorities based on ICRP principles. The essence of the Green Audit case is that inhaled or ingested radioactive materials have characteristics that make them more likely to have harmful effects at low-levels of radiation than has been acknowledged by the ICRP and national regulatory bodies. The Committee on Medical Aspects of Radiation in the Environment (COMARE) have rejected the claims of Green Audit on the basis of faulty epidemiological studies.<sup>29</sup> However, a recent peer reviewed paper<sup>30</sup> concerning a comparative analysis of the incidence of cancer morbidity in the population of two areas of Belarus selected for the greatest difference in their radioactive contamination following the Chernobyl accident lends some support to the Green Audit hypothesis that risks are understated by two orders of magnitude. An independent committee (CERRIE)<sup>31</sup> set up to consider the models used to assess health risks from internal emitters<sup>32</sup>

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<sup>28</sup> 96/29/Euratom

<sup>29</sup> COMARE 9th Report: Advice on a report by the Committee Examining Radiation Risks of Internal Emitters (CERRIE) 20 October 2004 [[http://www.comare.org.uk/press\\_releases/comare\\_pr09.htm](http://www.comare.org.uk/press_releases/comare_pr09.htm)].

<sup>30</sup> A.E. Okeanov, E.Y. Sosnovskaya, O.P. Priatkina, A national cancer registry to assess trends after the Chernobyl accident, *Swiss Med. Wkly* 2004;134:645-649. [[www.smw.ch](http://www.smw.ch)]

<sup>31</sup> The Committee Examining Radiation Risks of Internal Emitters (CERRIE) reported in 2004. In July 2001, the then Environment Minister, Michael Meacher MP, announced the establishment of a group with the remit "to consider present risk models for radiation and health that apply to exposure to radiation from internal radionuclides in the light of recent studies and to identify any further research that may be needed". The Committee thus formed, commenced its work in December 2001 and has held 16 meetings, during which it examined evidence from radiobiology and epidemiology. In June 2003, the Committee prepared a Preliminary Report that was considered by a Workshop of invited delegates in Oxford in July 2003. This final Report has been published and sent to the Committee on Medical Aspects of Radiation in the Environment (COMARE) for its consideration.

<sup>32</sup> The term "internal emitter" refers to radioactive material that has entered the human body by breathing, eating or drinking (inhalation or ingestion). Once in the body, the radioactive material will deposit in various organs, resulting in radiation exposure. Where the material goes in the body depends on its chemical form; for example, strontium isotopes will tend to accumulate in bone whereas caesium isotopes will be more uniformly distributed throughout the body. The radiation exposures caused by various internal emitters (internal dosimetry) has been the subject of international scientific research for over 60 years. An example of an internal emitter is naturally occurring uranium, which is in food and drinking water. We all have uranium in our bodies to an extent that depends on where we live, what we eat and what we drink. Uranium does concentrate in some organs more than others, but is also steadily excreted via bodily functions. External radiation comes from radioactive material outside the body. An example is the radiation from an x-ray machine which enters and then passes through the human body. Once the x-ray machine is switched off, the radiation disappears and none remains in the body. Here the dose to particular organs (external dosimetry) depends on the particular type and energy of the

advises that while they take account of the effects of inhaled or ingested particles (internal emitters), greater attention should be paid to uncertainties in current methods of estimating risks from internal radiation<sup>33</sup> and although the report finds no clear evidence to date that the current radiation risks are substantially wrong it recommends the adoption of a precautionary approach. An ICRP task group report<sup>34</sup> on the risk of cancer concludes that although there is no evidence of cancer being caused by low doses of radiation the linear dose relationship should remain however they point out that at the end of the day the decision on exposure is a political one. The draft ICRP 2005 Recommendations under public consultation amends the limits for certain radionuclides. Future releases of radioactive materials to the North Atlantic are being reduced to near zero by 2020 by agreement with the signatories of the OSPAR Convention, however the term 'near zero' has yet to be tested.

It is widely accepted that high doses of radiation are harmful; the aftermath of atomic bomb explosions and fallout from nuclear weapons tests and radiation accidents are proof of this. However, some experts believe a little radiation may be good for you. They say low-dose exposure to radiation, such as through x-rays and other medical scans, could have a positive effect on the body, in addition to diagnosing diseases.

According to Adrian Thomas<sup>35</sup>

'there is little evidence that small doses of radioactivity are harmful – the view that all radiation is harmful is a dogma with little scientific basis. Humans (and all life) have evolved in the presence of radioactivity - it is normal to be irradiated! The Arndt-Schultz law stated that small doses of radiation stimulate, moderate doses inhibit and large doses destroy cellular life. Certainly radiotherapists in the past have used radiation to stimulate function - thyroid and ovarian stimulation spring to mind. This was the practice of Dr Sebastian Gilbert Scott at the Royal London Hospital'.

Life evolved in the presence of radiation; radiation is quite natural and we are being irradiated all the time and there are cellular repair mechanisms for radiation damage. It is also possible that irradiation can help life by encouraging mutations and there is no evidence that organisms are less healthy in parts of the UK with a high background radiation. An interesting view that is so easily overlooked is that there are more breaks of DNA helices caused by free charged radicals, formed during the breakdown of organic foodstuffs, than are caused by ionizing radiations at the more usually accepted normal background levels, per unit of time.

The design and operation of nuclear power stations is based on radiation releases from normal operation and design basis accidents that give a radiation dose to the public at the site boundary of no greater than 1 mSv, 1000 times lower than the radiation level known to cause harm, giving a risk of death of 1 in 200,000<sup>36</sup> per year. Regulations also require that releases be reduced to as low a level as is reasonably practicable. The risk of death from radiation from a nuclear plant is therefore very much less than the risk

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radiation; for example, x-rays or gamma rays of different energies will be able to penetrate the body to different depths. The dose will also depend on how the body is positioned; for example, the dose will be different depending whether you are facing the radiation source or not. External dosimetry has been the subject of international scientific research for about a century.

<sup>33</sup> CERRIE Report Part 2, 2.8 para. 72 p30. 'Uncertainties in estimating equivalent dose, which combine the uncertainties in estimating both absorbed dose and RBE, are always likely to be significant, and probably vary in magnitude from about a factor of two to three above and below the central estimate in the most favourable cases (i.e. where good data were available) to well over 10 in unfavourable ones (i.e. where they were not).

<sup>34</sup> ICRP Committee 1 Task Group Report – Low Dose Extrapolation of Radiation Related Cancer Risk, 21 December 2004.

<sup>35</sup> personal communication from a member of the Society for Radiation Protection.'

<sup>36</sup> At 5% per Sievert using the linear non-threshold dose response relationship.

of an accident in the home, on the roads and at work. Releases from accidents and historical discharges of radioactive waste may present risks over and above those of normal operations and for inhaled or ingested particles should, as recommended by CERRIE, be treated with precaution, however, on balance the harm caused by radiation from nuclear electric power is low compared with everyday risks and should not be grounds for abandoning it.

### **Safety and Security**

The meaning of the terms safety and security have a common base and so there is a risk of confusion in their use. For the purpose of this paper four aspects are discussed: safety of the nuclear process in the sense that the process is operationally safe and will not cause harm or damage; that the nuclear process is safe from external harm; safety of nuclear materials such that they are not used to cause harm; and security of the output and that energy supplies are not interrupted or lost to the consumer. Taking these aspects in turn.

### **Operationally safe**

Safety of operation of a nuclear process concerns the danger to people and damage to property caused by operational or accidental release of radioactive materials, exposure to radiation of workers and the public, and environmental pollution including that from decommissioned plant and stored radioactive materials and waste.

Workers exposure to radiation is regulated under the *Ionising Radiations Regulations 1999* that reflect the Euratom Basic Safety Standards Directive 96/29/EURATOM. These regulations enforce working practices and exposure constraints and limits based on ICRP Recommendations. Such constraints and limits are well below the levels at which radiation is known to cause deterministic harm; the worker exposure limit is 20 mSv per year where the exposure known to cause harm is in the region of more than 50 times that value. Releases to the environment that may come into contact with the public are regulated, so as not to cause harm, by the *Radioactive Substances Act 1993*, that requires authorisation for the storage or release to the environment of radioactive materials. Any such release is approved with conditions, which among other things, is under the condition that it is justified and is as low as is reasonably practicable using best available techniques. Exposure of the public to radiation from a nuclear process, excepting medical procedures, is limited to 1 mSv per year under all circumstances including design basis accidents.

The design of nuclear reactors is such that the PWR as built at Sizewell has four barriers to the escape of radioactive materials: the fuel cladding; the reactor pressure vessel; the concrete and steel containment; and the steel outer containment. This system, without the outer containment, was sufficient to contain the results of the reactor meltdown at the Three Mile Island Power Plant in the USA releasing radiation to a level less than the regulatory limit. Generation three reactors would prevent such a meltdown even with the complete loss of power supplies. Experience around the world has demonstrated that practically, the release to the environment of radioactive materials in excess of regulatory limits from operation of the PWR is rare. Other than the TMI and Chernobyl accidents no other disastrous accident has occurred in 441 commercial power reactors worldwide with an operating experience of 11,000 reactor years. Harm to the public from the TMI accident was caused by fear of harm, rather than harm from radiation, caused by misinformation and lack of emergency planning.<sup>37</sup> While the Chernobyl type reactor (RBMK-1000) will not be built in the future, the accident has led to significant concerns causing delays in nuclear power development since 1986. Unlike TMI, Chernobyl had no containment and so radiation was widely dispersed. It is instructive to note that although the accident is a living monument to poorly regulated engineering it has not been the cause of the tens of thousands of deaths predicted by the media at the time; acute health effects to personnel on site and engaged in cleanup resulted in 31 deaths and about 140 people suffered radiation sickness and health impairment. Children in the surrounding area have

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<sup>37</sup> Riley P. (2003), 'Radiation Risk in the Context of Liability for Injury' *Journal of Radiation Protection*, Vol.23 pp 305-315.

been diagnosed with thyroid cancer having received high radiation doses to the thyroid of up to 1 Sv<sup>38</sup> and there are concerns about low-level radiation from internal emitters.<sup>39</sup> Measures taken to cater for low-level radiation fallout in the British Isles from the Chernobyl accident do continue but are concerned with radiation levels that are set by regulatory authorities not with levels that cause actual harm.

#### **Protection of the power station from external harm**

The design of the structure of a nuclear reactor containment is such that as well as preventing the escape of radioactive materials it must withstand the effects of climate, credible earthquake and external forces such as the impact of military and civilian aircraft.<sup>40</sup> The effect of fire will affect administrative and services buildings but the nature of the containment and safety systems will ensure that the reactor will be undamaged and will shutdown safely. The design of the Sizewell 'B' reactor control systems, for example, were extensively modified from original concepts of complete computer control to ensure that no outside disturbances or intrusion could, through the control systems, degrade its safe operation and shutdown.

Concern has been expressed about the safety of irradiated fuel storage and transport. While in early reactors on-site storage of used fuel was potentially vulnerable, future designs offer the same level of protection for used fuel as for the reactor systems. It has been shown that transport flasks for used fuel can withstand the collision with a full speed fully loaded express train.

#### **Safety of nuclear materials**

There is undeniable risk of radiation release from the illicit use by terrorists in a Radioactive Dispersal Device (RDD) or 'dirty bomb'; however, the use of new or used fuel from a nuclear power reactor would require extreme action in itself. It must be admitted that Greenpeace activists gained access to the nuclear power station at Sizewell to demonstrate lax security, however, to obtain radioactive materials and take them away from the station would require special skills and equipment that is only available to reactor operators and is closely regulated under IAEA safeguards. The use of radioactive materials from medical, industrial or academic sources would be more likely the target of terrorist action. Such possibilities should not affect the future of nuclear power but do serve as further incentives to ensure safe containment.

The fear is expressed that having new nuclear power stations will lead to more nuclear weapons. This is a false fear as weapons grade materials can be produced without the need for power reactors. The greatest risk of nuclear weapon proliferation is that countries will independently develop weapons, as did the USA, Russia, UK, France, China, India, Pakistan and Israel without access to external help. The *Non-Proliferation Treaty (NPT)* offers peaceful nuclear technology and the advantages of nuclear electricity, medical, industrial and agricultural applications to states that need them on condition that they do not develop nuclear weapons. This has clearly worked in the majority of states that have taken advantage of the arrangements. There are examples of failure such as North Korea and potentially in Iran, nevertheless the system is viable and with improvement will continue to be effective. Possible improvements in safeguards under the NPT include the prohibition of enrichment and reprocessing nuclear fuel in non-nuclear weapons states and the concentration of those processes and possibly the storage and disposal of used fuel and radioactive waste in a limited number of locations in the world. The destruction of weapons held by Nuclear Weapons States would encourage such improvements.

#### **Energy Security**

It is evident that nationally, even if only for short periods, the loss of electrical supplies would cause harm in particular to the elderly and infirm. While published studies have not been carried out to establish the effects caused by the failure of electrical supplies it would not be unrealistic to say that the loss of power

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<sup>38</sup> OECD, 'Chernobyl: ten years on, radiological and health impact', November 1995. Paris.

<sup>39</sup> See ref. 21 and 22

<sup>40</sup> Doggett T., ABCNEWScom Report US Nuclear Plants Can Survive Plane Attack.htm. Washington, 17 June 2002.

for one day during a severe cold spell could result in the loss of life of a significant number of people. To prevent such interruption to the power supply it is necessary to have reliable back up to vulnerable sources of supply such as wind and in the future imported gas. The introduction of nuclear energy in the UK was eased by the Suez crisis and fear of disruption of the oil supplies and has proved its value by its contribution to avoiding loss of electrical supplies during the industrial unrest in the coal industry.

Although early nuclear power stations had poor availability, nuclear power reactors now have a good record of availability in the high 90% region. A nuclear reactor operates on the basis of refuelling on a 1 – 2 year cycle, which means that no offsite supplies of fuel are necessary during that period and in some cases even longer periods where advanced stocks are held. Some generation four reactors will have the facility to store a lifetime of fuel and used fuel on site although the balance between security and economics will be the deciding factor in the case of new fuel. The availability of electricity and waste heat could be guaranteed for long periods without interruption from the disruption of transport. To ensure security of supply, nuclear power is an essential ingredient in the future development of energy supplies in the UK. The wide geological availability of uranium, its low cost of resource replenishment, and low cost to the customer as a component of final generation costs make it a significant future source of energy.<sup>41</sup>

### **Effective protection of the environment**

The use of nuclear energy has many positive effects on the environment. Direct effects are the availability of energy and clean water to alleviate poverty in undeveloped areas of the world and as a consequence the possibility of removing a cause of terrorism and modern day ‘Robin Hoods’; a cleaner atmosphere; a reduction in carbon dioxide, sulphur dioxide and nitrogen oxides in the atmosphere; the contribution to medical, agricultural and industrial activities; the extraction of hydrogen to contribute to cleaner transport; and indirectly by slowing the depletion of gas, oil, coal and wood resources.

The question that is of concern to many is the effect on future generations in the context of release of radiation from stored or disposed radioactive waste. Such concerns are being identified in the studies being carried out by the Committee on Radioactive Waste Management (CoRWM) in their investigations to decide the optimum solution to the long-term storage and disposal of solid radioactive waste. In considering environmental legal principles in international law relating to CoRWM’s work, Professor Warren, draws attention to the principles of Protection, Polluter Pays, Precaution and Preventative Action and to several of the principles of the Rio Declaration.<sup>42 43</sup>

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<sup>41</sup> Macdonald C., ‘Uranium – sustainable resource or limit to growth?’ Nuclear Energy, 2004, 43, No.2 pp 99 – 105, BNES.

<sup>42</sup> CoRWM 31 August 2004, Document No. 627

<sup>43</sup> The Rio Declaration was agreed at the United Nations Conference on Environment and Development held at Rio de Janeiro in June 1992. The Declaration is a non-binding legal instrument containing 27 principles related to sustainable development and those of greatest relevance to the work of CoRWM are:

Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.

In considering intergenerational equity Professor Warren concludes:<sup>44</sup> that perhaps the clearest exposition of the dilemma created by trying to implement intergenerational equity in the context of radioactive waste management is provided by the Government's statement in the Review of Radioactive Waste Management Policy:<sup>45</sup>

'radioactive waste should be managed in such a way that predicted impacts on the health of future generations will not be greater than relevant levels of impact that are acceptable today.'

This raises a number of questions;<sup>46</sup> these questions and considerations will be taken into account in the deliberations of the Committee that will report in 2006.

In Sweden, Finland, Switzerland, France and the USA preparations are already in hand for the deep storage of used fuel and radioactive waste. Future designs of power reactor will add less pro-rata to the volume of waste already in existence and present no more of a radioactive waste problem than already exists and is being tackled. The radioactive waste inventory in the UK at 2001 was 1 million cubic meters of low-level waste buried in concrete lined vaults at Drigg and Dounreay; 65,000 cubic meters of intermediate level waste, partly conditioned; and 2,700 cubic meters of high-level waste in storage. It is estimated that conditioned and packaged intermediate-level waste, including that from decommissioning, arising to the year 2100, will amount to about 350,000 cubic meters and 2,100 cubic meters of packaged

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In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

<sup>44</sup> CoRWM 31 August 2004, Document

<sup>45</sup> DoE, Review of Radioactive Waste Management Policy, 1995, para. 37

<sup>46</sup> The sentiment is fine but, given that we know nothing about what future generations may actually want or need and that we can never be certain that our management models are completely accurate, the task becomes virtually impossible especially if the stated objective is to apply far into the future.

In conclusion, in considering how to apply intergenerational equity, CoRWM might consider the following questions:

Are all generations equal? Does it matter that we know nothing of future generations and can predict less and less about them into the future?

Why do we want to take account of future generations? Is it out of a sense of duty? Do we believe future generations have rights?

Are we concerned with the future environment or the future people? Which is most important to us?

What is the case for leaving options open for the future? Is it because future generations might be better equipped to deal with the problem than us? Is it because they might not find it a problem? Is it because it will be cheaper then? Is it because global warming or other catastrophic scenarios will trivialise the problem?

What is the case for dealing with it now? Is it just a sense of duty? Is it because we don't trust the future to get it right? Is it because it is dangerous now and we need to protect ourselves once and for all time? Is it because we think it would be the best chance of getting more nuclear build and thereby tackling global warming? Is it because the political climate is right?

How many future generations should we consider? Should we treat them all equally? Is there any justification for a cut-off point?

If we believe that there is an ethical imperative to act for future generations, how does that imperative relate to the ethics of intragenerational equity? Are we giving too much weight to future human generations at the expense of the environment as a whole?

high-level waste;<sup>47</sup> a volume about the size of Wembley Stadium. The careful and open deliberations of CoRWM must ensure a safe and practicable solution for the UK.

The stored radioactive waste, used fuel and radioactive materials do not currently present a hazard; the annual radiation exposures due to discharges from the UK sites are well within regulatory limit of 1 mSv. The highest exposure is at Sellafield 0.21 mSv and Whitehaven 0.41 mSv; the latter being due to historical releases of Technologically enhanced Naturally Occurring Radioactive Materials (TNORM) from the former Albright and Wilson phosphate works.

### **Issues, Opportunities and Challenges**

The three pillars of sustainable development, economic, social and environment have been addressed and it has been argued that nuclear electric power can meet the tests to satisfy the justification of new nuclear build. The decision to recommence the development of nuclear electrical power rests with Governments; however, public opinion and international politics affect that decision.

With the subject of waste management well on its way to resolution the issues relating to new nuclear development are reduced to two major subjects: the consequences of the remote but possible accident that would release cancer causing particles over a wide area; and the use of nuclear technology to produce weapons. The opportunities to be grasped are: the availability of relatively low polluting energy that is free of greenhouse gas emissions and polluting carbon particles; the possibility of deployment of small, long lived, low maintenance power sources that can be deployed in developing countries; and security of energy supplies in the environment of scarce alternatives. The challenges to be overcome focus on the resolution of the two major issues. Accidents and the consequences of accidents which can be avoided by the continued practice of sound engineering, vigilant management and on the public recognition of accepting the relative risk of low level radiation opposed to the hazards of alternative sources of energy, future security of supplies and everyday risks. The second issue, that of proliferation of nuclear weapons, must be solved through international law and political means: it involves recognising that all nations with a nuclear capacity are parties to the solution; and includes the strengthening of the United Nations or creation of a separate international body to suitably modify and police the existing international instruments notably the Non-Proliferation Treaty (NPT) and the Comprehensive Test Ban Treaty (CTBT).

It is encouraging to note that a small step in the latter direction has already been made under the 'Megatons to Megawatts' programme where the equivalent to 9000 nuclear warheads have so far been recycled into fuel for power plants; it is estimated that by 2013 some 500 te of Russian weapons-grade uranium will be recycled into fuel.<sup>48</sup> The question of centralising or regionalising the manufacture and reprocessing of nuclear fuel, storage and disposal of spent fuel and unwanted nuclear materials would require further international instruments coupled to the NPT and CTBT and would set the scene for a 'brave new world'.

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## **LESOTHO HIGH LAND WATER PROJECT**

Protimos is a UK based charity which works with an international network of like minded lawyers to develop in-country legal capacity for the advancement of good governance and provides access to justice by offering education, training and legal expertise to people in marginalised communities so that they can use the law to protect their natural and cultural heritage.

Last year, a Protimos lawyer was invited to accompany a delegation from the US Senate Committee on Foreign Relations, on a visit to the parts of Lesotho affected by the Lesotho Highland Water Project. The

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<sup>47</sup> Electrowatt-Ekono (UK) Ltd. DEFRA Report DEFRA/RAS/02.004, The UK Radioactive Waste Inventory, October 2002.

<sup>48</sup> News and Comment, Nuclear Energy, 2004, 43, No.6, Dec., p300.

purpose of the delegation was to visit Basotho communities adversely affected by the construction of the dams, transfer tunnels and roads. The delegation was concerned with the effectiveness of resettlement and compensation provisions according to Basutho law.

The lawyer saw hopelessness and defeat in most of the affected communities. At Katse, a local chief described the effects of the construction of the reservoir on his village. When the dam had been impounded, seismic effects had resulted in the complete loss of their water supply, upon which their livelihoods depended. Within the village, a small contaminated well was the only water source. The children in the community had skin lesions and digestive problems. Their lands and means of independent survival had all but disappeared, and the social fibre of the region had disintegrated. Although he was aware that he was entitled to alternative water supplies, and to appropriate compensation, of varying kinds, the chief's entreaties to the Lesotho Highlands Development Agency (LHDA) had been ignored, during the eight years since the dam had been built and filled. He despaired for the future of his community, and had lost hope.

In fact, there are legal remedies for Chief.

The chief has clear and enforceable rights, under Basutho law. Whether the law is adequate is a separate question. The chief lacks the legal resources which would enable him to approach and negotiate with those who have responsibility for his situation, from a position of strength.

Developing but impoverished countries such as Lesotho enact a wide range of laws reflecting international standards, which promote and protect civil, political social and economic rights. In such young democracies, there remains among the disadvantaged sectors of their population, what a recent Institute of Development Studies report described as, "a culture of silence" and "learned helplessness" with respect to laws and legal systems.

Disadvantaged community members in such countries do not see the law as an instrument for their use, to assert their rights, or protect their resources under the law. Put simply, they lack access to justice. The reasons for that can be found in:

- a lack of awareness in such communities that 'rights' exist, protected by primary or secondary legislation.
- a reductive view that the legal system itself is incomprehensible, inaccessible and biased in favour of an imperative which sees the disadvantaged community as ignorable, not acknowledging that there are civil obligations which must be discharged to such communities, as an intrinsic part of the project;
- fundamental impoverishment: the absence of a civil legal aid system puts the most effective obstacle of all to legal assistance in the pathway of the chief. As he can barely afford to survive, he certainly can't afford to pay for a lawyer to advise or assist him in resolving the inequities from which his people suffer.
- a desperate shortage of lawyers who are trained in public interest, environmental or human rights litigation; in a young, impoverished democracy, laws may have been enacted according to emerging international norms. Where there is little available expertise, scarce case law, and absolutely no public funding, the judiciary in Lesotho cannot begin to build the body of public interest law which indicates that the three pillars of a democracy, (the executive, the legislature and the judiciary) are interacting effectively.

Prevention of citizens' access to justice leads to further impoverishment and isolation within such communities. Gross inequalities of access to justice compromise the strength of legitimacy that a democratic State must foster and preserve, for it to survive. This is crucially important in countries which are trying to lift themselves out of poverty. A meaningful offer of assistance has been made to some of the poorest countries in the world in the form of the UN Millennium Development Goals. Whilst it is

accepted that an increase in aid will assist countries in a number of areas of public policy, more systemic changes are required if countries are ultimately to escape the cycle of poverty. For the UN Millennium Development Goals to be reached, it is essential for such goals to be underpinned by good governance.

Protimos was established to provide legal assistance for communities which will enable them to gain access to justice, and thus defend their natural and cultural heritage. Based in London, it works with an international network of like-minded lawyers who cooperate to create the means and support for access to justice. Protimos provides training, and strategic and financial support to local lawyers to enable them to act for communities who require legal assistance. By providing in-country capacity building, Protimos ensures that those broader development goals are promoted and sustainable long after the specific aims of a particular project are achieved.

Access to justice lies at the heart of a healthy democracy ideal. To deny people their civil rights, albeit by default, is to degrade the very foundations of the State itself. In the gap between laws that grant communities' rights and the communities themselves, Protimos supports stakeholder democracy so those whose need for justice is most acute may use the law to achieve it.

Protimos currently coordinates a number of projects, including:

1. Protimos has been asked to assist in setting up a legal project in cooperation with the Transformation Resource Centre (TRC - a Basutho NGO), and the Campus Law Clinic of the University of KwaZuluNatal, in Durban. The purpose of the project is to use the due process of law for the benefit of those who have been left homeless, destitute or deprived as a direct consequence of the LHWP.
2. Cameroon is preparing to enact access and benefit sharing (ABS) legislation in compliance with the Convention on Biological Diversity (CBD). Protimos has been asked to provide support and expertise to a group of Cameroonian lawyers involved with the Bioresources Development and Conservation Programme Cameroon, (BDCPC), whilst it collates and synthesises the ideas and views of the key stakeholders of Cameroon's wealth of biodiversity. The project is vital, to ensure that future ABS legislation finds the right balance between the promotion of Cameroon's economic interests, the protection of its biological resources and the sustainability of indigenous peoples' livelihoods.
3. The San people of Southern Africa, organised within a networking and advocacy organisation, the Working Group of Indigenous Minorities in Southern Africa (WIMSA) seek to protect their heritage through the use of law. 'Heritage' includes all property, from rights to land to culture, language, traditional knowledge and intellectual property, all of which combine in the unique culture of the San. Significant gains have been made by the San in management of their intellectual property over the past years, using the services of a small number of dedicated public interest lawyers. The San now need training and assistance to enable them to advocate for themselves in a dedicated organisation, based in their lands.

For further information see [www.protimos.org](http://www.protimos.org)

## **DRAFT NATURAL ENVIRONMENT AND RURAL COMMUNITIES BILL**

### **Summary**

The Natural Environment and Rural Communities Bill is designed to help achieve a rich and diverse natural environment and thriving rural communities, through modernised and simplified arrangements for delivering government policy. The Bill will implement key elements of the Government's Rural Strategy, published last July, and establish flexible new structures with a strong customer focus.

### **Key Elements of the Bill**

- The creation of a new and powerful Integrated Agency (working title) that will, for the first time, bring together and integrate responsibilities for protecting and enhancing the value and beauty of our natural environment alongside functions to promote access, recreation and public well-being for the benefit of this and future generations. The agency will provide a single focus for those who manage and protect our countryside and green spaces – making access to advice and support simpler and easier.
- Formal establishment of the new Commission for Rural Communities to act as an independent advocate, adviser and watchdog for rural people, designed to ensure the Government's policies make a real and tangible difference to people in rural areas, especially in tackling social and economic exclusion and disadvantage.
- Powers for the Secretary of State to directly fund activities within Defra's remit, as a tidying up measure following the creation of Defra and to provide maximum flexibility.
- Powers to allow both the Secretary of State, and delivery bodies, to delegate Environment, Food and Rural Affairs (EFRA) functions to one another by mutual consent, to provide simpler and more effective access to customers.
- Powers to take forward the findings of a forthcoming review of Levy Bodies, due to report later this year.

The Bill also contains a number of lower profile but important measures designed to help streamline delivery and simplify the legislative framework.

### **Pre-Legislative Scrutiny**

The Bill was published in draft for pre-legislative scrutiny by the House of Commons EFRA Select Committee by Easter. Further information on the pre-legislative scrutiny process can be found at [www.parliament.uk/efracom](http://www.parliament.uk/efracom) under 'Press Notices'.

### **Further Information**

Further information on the Bill and how to feed in comments is available at [www.defra.gov.uk/rural/ruraldelivery/bill](http://www.defra.gov.uk/rural/ruraldelivery/bill).

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## **EUROPEAN ENVIRONMENTAL LAW WEBSITE AND EEL NEWS SERVICE**

Readers will be interested in the renewed European Environmental Law Website ([www.eel.nl](http://www.eel.nl)) and its EEL News Service.

The site endeavours to provide up-to-date, comprehensive and in-depth information on European Environmental law with the help of voluntary contributions.

The non-profit website is hosted by the T.M.C. Asser Institute in the Netherlands, and kept up-to-date by its staff in cooperation with editors from other institutions (notably the Academy of European Law Trier, Germany) and individuals from all over the European Union and from third countries.

For those involved in environmental law issues this website is an indispensable source of information, covering full text case law with annotations, major European and national legislation, national pages, reviews and events. Apart from primary sources, several dossiers offer a more in-depth view on issues like European Climate Change Policy and EU Presidency priorities.

If you subscribe to the free EEL News Service, you will receive by e-mail every two weeks an overview of recent developments and other information on European Environmental Law. By clicking the following hyperlink you can subscribe to the news service: <http://www.eel.nl/form/newsservice.htm>

## **NORTHERN IRELAND – TOWARDS AN INDEPENDENT ENVIRONMENT AGENCY**

The proposal for an independent environment agency in Northern Ireland will be explored at a roundtable in Belfast in October. The aim of the roundtable, which is being organised by UKELA in partnership with Queen's University Belfast and Friends of the Earth, is to bring together decision-makers and those with experience in different models of environmental governance. The roundtable is by invitation only and subject to Chatham House rules and could be influential in shaping future direction.

Currently regulatory functions in Northern Ireland are delivered mainly by the Department of the Environment, which is also the legislator and policy maker. There has been much criticism in Northern Ireland that this system, coupled with poor resourcing, has led to an inadequate system of environmental protection (see UKELA's paper on this issue on the website [www.ukela.org](http://www.ukela.org)).

UKELA has helped bring expertise from other parts of the UK into the discussions and there are already positive noises in government about the need for reform. It is hoped that a government review of environmental governance will be announced shortly.

UKELA now has a Northern Ireland working party whose first task will be to help influence the independent agency debate. It will hold its first meeting at 5.30pm on Tuesday May 24<sup>th</sup> at Belfast. If you are interested in attending please inform the convenor, Brian Jack ([b.jack@qub.ac.uk](mailto:b.jack@qub.ac.uk)) – numbers are limited.

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## **LAND REMEDIATION – REALITY OR TOY TOWN?**

**Stephen Sykes** of WSP Environmental and Vicki Elcoate, UKELA Executive Officer

The impact of the contaminated land regime on local communities, its legal complexities and the potentially huge costs of the enforcement process, were discussed by 60 UKELA members at the March

London meeting. The event, with four speakers, was kindly hosted by the law firm, Herbert Smith, and organised by Simon Boyle of UKELA's Council and Argyll Environmental.

Stephen Tromans, of 39 Essex Street, gave the Noddy and Bumpy Dog version of the contaminated land regime – the difference between the Toy Town world of the theory and real life. He identified four problems with how it was working – where to draw the line around land determined as contaminated (sites within sites), the regulators' power to act, the relationship with planning and the confusion, after the Van de Walle case, with waste regulation. He felt the government was being slow to address some of these problems.

Mark Southwood, Managing Director of Temple Regeneration, described the drivers for inspecting contaminated land. He emphasised the importance of following Defra's methodology to secure funding and avoid challenges. 234 determinations were in progress under Part IIA, albeit that 70% of these relate to seven sites. The £20m fund administered by Defra was under-used. Risk assessments can take two or three years to finalise which meant a long period of uncertainty for landowners, other responsible persons and residents. Local authorities have to juggle limited resources with onerous regulatory responsibilities and the difficult task of managing a multitude of stakeholder interests. In his experience, the total period up to and including remediation could take five years for large contaminated sites and assessment was costly. Sometimes Councils require external expert assistance to project manage the remediation, community liaison and consultation exercise.

Robert Williams, project leader for Public Health in Barking and Dagenham Council, works with the local NHS Trust to tackle deep-seated health issues. A major project was the Thames View Estate contaminated land assessment – chemicals had been found in the soil in excess of safe guidelines. This is a 68 hectare site with 2,300 dwellings and 5,000 anxious residents. The Council worked with NHS specialists to determine whether contamination presented a risk to health. However there were problems with lack of understanding of the role of risk assessment. Mr Williams felt this was a valuable model from which useful lessons could be learned.

Finally, Darren Henaghan, Head of Health and Consumer Services also from Barking and Dagenham Council, talked about his concerns about adverse publicity raised by the Thames View case and communications with residents. He felt that a speedier and simpler process was needed to provide clear answers and put minds at rest. Was it fair to use local taxpayers' money for this exercise – the site investigation will cost £3.5million over five years, clean up likely to cost several tens of millions of pounds?

The April meeting focused on the role of mediation in environmental disputes. The speakers were Christopher Napier of Clifford Chance and Elizabeth Rivers, Mediator. Christopher Napier described four disputes, in which he had a role as mediator, which from an apparently insoluble starting point, resulted in an outcome with agreement from all parties and a benefit for the environment. The process, as he said, put the parties "in a frame of mind to construct solutions". The agreement is put into a legal settlement which is enforceable straightaway. Mediation could be applied to any form of conflict, not just litigation, including complex planning issues. Both speakers work for the Centre for Effective Dispute Resolution.

The next London meeting, and the last in this series, is to be held at Eversheds (please note change from usual venue), Senator House, 85 Queen Victoria Street, London, EC4V 4JL, at 6pm on July 21<sup>st</sup>. The theme is Environmental Impact Assessment and the speakers are Paul Winter from Eversheds and Denise Hill from the University of Brighton. Bookings to [claire.robertson@herbertsmith.com](mailto:claire.robertson@herbertsmith.com). There will be a small contribution to cover costs at £10 for Members and £20 for Non-members. Students and Unwaged members are free. All cheques should be made payable to UKELA and sent to: UKELA, c/o Claire Robertson, Exchange House, Primrose Street, London EC2A 2HS, (DX 28 London),

Tel 020 7466 3650.

At the April meeting UKELA's vice chairman, Daniel Lawrence, thanked Herbert Smith, the main hosts of the London meeting series. UKELA is particularly grateful to Maria Cull and Claire Robertson, who have hosted and administered the meetings respectively.

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## **WORKING PARTY ACTIVITY**

- 1. Biotechnology Working Party – Convenor, Daniel Lawrence**  
[daniel.lawrence@freshfields.com](mailto:daniel.lawrence@freshfields.com)

No meetings have taken place recently.

- 2. Contaminated Land Working Party – Convenor, Matthew Townsend** -  
[Matthew.Townsend@allenovery.com](mailto:Matthew.Townsend@allenovery.com)

A meeting of the Contaminated Land Working Party took place on 9 December 2004. This considered consultants' terms and conditions of engagement and the Van de Walle judgment.

- 3. Climate Change (Emissions Trading & Flexible Mechanisms) Working Party – Convenor, Helen Loose –** [helen.loose@ashursts.com](mailto:helen.loose@ashursts.com) **Secretary, Anthony Hobley -** [arh@cmck.com](mailto:arh@cmck.com)

A meeting was held on 25 November 2004 to discuss the DEFRA consultation paper concerning amendments to the EU ETS regulations and to consider whether and how the Group should respond to the consultation.

- 4. Environmental Litigation Working Party – Joint Convenors, James Kennedy –** [james.kennedy@freshfields.com](mailto:james.kennedy@freshfields.com); **Justine Thornton –** [Justine.Thornton@AllenOvery.com](mailto:Justine.Thornton@AllenOvery.com)

The working party prepared a position paper on costs to be used as the basis for a press release linked to a DEFRA/ELF conference on Access to Environmental Justice held in November 2004. The last meeting was on Tuesday April 12<sup>th</sup> April. The agenda included discussion on costs barriers, civil penalties and environmental tribunals/courts.

- 5. Insurance and Liability Working Party – Convenor, Valerie Fogleman –** [vfogleman@blq.co.uk](mailto:vfogleman@blq.co.uk)

The last meeting was on 12<sup>th</sup> January, previewing key issues in the Environmental Liability Directive.

- 6. IPPC Working Party – Convenor, Elisa de Wit -** [edewit@klnq.com](mailto:edewit@klnq.com).

Elisa is a new convenor for this working party and will shortly publicise planned events for 2005.

- 7. Nature Conservation Working Party – Convenor, Andrew Baker -** [andrew\\_baker@dial.pipex.com](mailto:andrew_baker@dial.pipex.com)

No meetings have taken place recently.

8. **Planning Law and Sustainable Development Working Party – Convenors, Anne Harrison, [aharrison@clarkslegal.com](mailto:aharrison@clarkslegal.com) and – William Upton – [wupton@compuserve.com](mailto:wupton@compuserve.com)**

A meeting to decide future activities for this working party was held on Thursday April 21<sup>st</sup> at Clarks Legal, 12 Henrietta Street, WC2.

**Scottish Law Working Party – Convenor, Gordon McCreath – [Gordon.McCreath@dundas-wilson.com](mailto:Gordon.McCreath@dundas-wilson.com)**

Ian McPake has resigned as Convenor for this party. Gordon McCreath of Dundas & Wilson has been appointed the new Convenor as of 8 December 2004.

9. **Waste Working Party – Convenor, Andrew Bryce – [bryce@ehslaw.co.uk](mailto:bryce@ehslaw.co.uk) Secretary, Anju Sanehi - [asanahi@aep.com](mailto:asanahi@aep.com)**

The meeting scheduled to take place on 19 January 2005 was postponed due to an illness. The meeting is being re-scheduled.

10. **Water Working Party – Convenor: Claire Smith [Claire.Smith@AllenOvery.com](mailto:Claire.Smith@AllenOvery.com)**

A seminar was held by the Water Working Group on 14 January 2005 on The New Groundwater Directive – Its development and current status. The speaker was Tony Masland from the Environment Agency. Claire Smith has now taken over as Convenor of the group.

The last meeting took place on 15 April 2005. The speaker was Chris Newton, Director of Environment for the state of Jersey on: “Environmental Management in the UK and Jersey, a comparison”.

**MARK BRUMWELL**  
**Dundas & Wilson LLP**  
**Working Party Co-ordinator**  
[Mark.Brumwell@dundas-wilson.com](mailto:Mark.Brumwell@dundas-wilson.com)

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## **PLANNING AND SUSTAINABLE DEVELOPMENT WORKING PARTY BACK IN ACTION**

The Planning and Sustainable Development Working Party has got off to a fresh start with its first meeting under new joint convenors, Will Upton and Anne Harrison.

The meeting had a presentation from Will, of 6 Pump Court, on the new legal framework for the Development Plan under the Planning and Compulsory Purchase Act 2004. Anne, of Clarkslegal LLP, set out the huge number of consultations which fall under the planning and sustainable development heading, including the continuing revision of all the planning policy statements.

The working party agreed to develop consultation responses to four current consultations: Soundness of the Development Plan; changes to the Development Control system; implementation of the Public Participation Directive and Major Hazards. Each of these is being co-ordinated by different working party members but they welcome any help anyone can offer.

The working party is planning various future events including a session at the conference in Edinburgh. The next meeting in London will be in September (date tbc). Anyone interested in joining the working party should contact Will or Anne (details below).

### **IPPC WORKING PARTY**

The IPPC working party has a new convenor, Elisa de Wit, of Kirkpatrick & Lockhart Nicholson Graham LLP. Elisa is planning to hold an event shortly and will be in touch with existing working party members. If anyone would like to join the group please contact Elisa (details below).

### **ENVIRONMENTAL LITIGATION WORKING PARTY**

The Environmental Litigation Working Party is planning a series of contributions to the debate on Access to Environmental Justice. DEFRA is currently reviewing all the work done last year to develop recommendations on how to improve access to justice in environmental cases. The Working Party is particularly looking at Protective Cost Orders, Administrative Penalties and an Environmental Tribunal/Court. If anyone would like to help with this work please contact the convenors, Justine Thornton and James Kennedy (see below).

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### **EAST ANGLIA REGIONAL GROUP**

**IMPORTANT: New date for previously postponed meeting  
Anyone who previously booked should rebook their place please.**

You are invited to attend a meeting in Cambridge in partnership with the East Anglia Business Environment Club (EABEC). The focus of the meeting is "Environmental management and legislation: how to keep up to date" with speakers from the EABEC and Mills & Reeve solicitors.

Discussion will be about Environmental Management Systems and how to keep abreast with changes in environmental legislation.

Chair: Andrew Wiseman, UKELA chair

Speakers: Dr Simon Gerrard, EABEC  
Rebecca Carriage, Mills & Reeve

Date: Wednesday July 20th 2005

Time: 4.30 pm – 7.30 pm

Venue: Mills and Reeve, Francis House, 112 Hills Road,  
Cambridge, CB2 1PH.

Thanks to Rebecca Carriage of Mills and Reeve's Norwich office for hosting the meeting

Telephone: 01223 364422 (Cambridge office reception)

07717274494 (Rebecca Carriage mobile)

Location map: <http://www.mills-reeve.com/cambridgemap.asp>

CPD points accredited: 1

Coffee/tea available from 4.30pm. Please stay for drinks and nibbles afterwards.

Cost (to cover refreshments): UKELA and EABEC members free of charge. Non-members £5. Students free of charge although places are limited. All places must be booked.

**Booking:**

Please book your place by sending an email including your name, organisation, and contact details to the UKELA Executive Officer Vicki Elcoate, ([Vicki.elcoate@ntlworld.com](mailto:Vicki.elcoate@ntlworld.com)). If you are not a member please send a cheque for £5 to Vicki Elcoate, The Brambles, Cliftonville, Dorking, RH4 2JF. Please make cheques payable to the UK Environmental Law Association.

Anyone interested in this group should contact [Vicki.elcoate@ntlworld.com](mailto:Vicki.elcoate@ntlworld.com).

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## **TRAINING EVENTS LATEST**

The postponed training event being organised jointly by UKELA and the Association of Personal Injury Lawyers will be held on Thursday June 23<sup>rd</sup> in central London. The theme is Practice and Procedure and speakers include Stuart Bell of Nottingham Trent University, Stephen Tromans of 39 Essex Street, solicitor Richard Buxton, and Professor Robert Lee of Cardiff University. The event will start at 2pm and close with drinks. To book please see the website or ask Vicki Elcoate for a booking form ([Vicki.elcoate@ntlworld.com](mailto:Vicki.elcoate@ntlworld.com)).

The cost for this event is £111.63 (including VAT) with a discount for anyone who also attended the April training event.

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## **UKELA MOOT 2005 - FINALS**

**Martha Grekos, No5 Chambers (London-Birmingham-Bristol), [mg@no5.com](mailto:mg@no5.com)**

The finals of the two 2005 UKELA mooting competitions took place on Friday 11th March 2005 before a wide audience which included supporters, UKELA Council members and our two grateful sponsors.

The finalists of the two moot competitions were Anna Legge and Stephen Weiner (Ashursts), Sasha Blackmore and Michael Clark (BVC - BPP and IC SL) for the Lord Slynn of Hadley Moot 2005; and Katherine Hart and Jennifer Hamill (University of Dundee); Claire Howell and James Hanlon (Nottingham Trent University) for the UKELA Student Prize Moot 2005.

The UKELA mooting competition problem was drafted by Martha Grekos of UKELA's Council and No5 Chambers, which involved an appeal to the Court of Appeal by Frivolous Pursuits Ltd.

Frivolous Pursuits Ltd is a private company, based in a factory in North London. The company carries out the assembly, packaging and distribution of games and toys. In November 2003, its production manager, Ms Barbie, who is employed by Frivolous Pursuits Ltd, was in temporary charge at the premises, as the two directors (and 100% shareholders) in the company were away.

At that time, the company workforce was working on a new board-game called "Sugar and Spice". Great hopes were being placed on the success of the new toy in the run-up to Christmas, as the company was experiencing great financial difficulties as they were on the verge of insolvency.

On 13th November 2003, Ms Barbie arrived at the premises and discovered that 200 tonnes of waste matter had been dumped so the vehicular entrance to the factory was blocked. Ms Barbie suspected that it was the work of the company's business rival, Ms Sindy, so as to cause huge delays and lost orders from retailers as the vehicles would not be able to get access to the factory in order to pick up the pre-ordered stock and make the appropriate deliveries. Ms Barbie believed that the local authority waste disposal unit would take several days to respond to this urgent situation.

With such factors in mind, Ms Barbie took what she regarded as positive action and arranged for mechanical diggers to remove the waste, which she ordered to be tipped onto nearby derelict land. Ms Barbie was well aware of the company's waste disposal procedures which did not allow for the tipping of waste except with the approval of the local authority or the Environment Agency. She intended to inform the local authority or the Environment Agency at some stage and, the next day, dictated a report to the directors advising that "it may be necessary to inform the appropriate authorities as soon as practicable"

Two-days afterwards, the local Environment Agency received an anonymous call informing them about the 200 tonnes of waste on a piece of derelict land. Upon inspection by the Environment Agency's fly-tipping officers, the Environment Agency discovered the waste on the derelict land which was controlled non-hazardous waste and traced that waste back to Frivolous Pursuits Ltd.

The company was charged with the offence of unlawful deposit of controlled waste, in breach of section 33(1)(a) and 33(6) of the Environmental Protection Act 1990. The case was heard on indictment in the Crown Court where the company was convicted. The trial judge, Her Honour Judge Cartoon: (a) refused to allow the defences under section 33(7) of the Environmental Protection Act 1990 to be put to the jury on those facts; and (b) ruled that, upon the fact of deposit being established, the company was strictly liable for depositing waste contrary to section 33 of the Environmental Protection Act 1990 and could not avoid vicarious liability for the acts of its employee in these circumstances.

The subject of the moot was the appeal to the Court of Appeal by Frivolous Pursuits Ltd. Frivolous Pursuits Ltd appealed to the Court of Appeal, on the following grounds: (a) that the company should be able to avail itself of the due diligence defence contained in Section 33(7) of the 1990 Act and should not be held criminally responsible for the acts of its employee; and (b) that the defence of necessity should have been put to the jury; that it is a defence sui generis and distinguishable from duress, there being no reason why it should be restricted to danger to human health or the circumstances for minimising pollution of the environment; and that, in accordance with the principles of legality, a proportionality test should be applied, as between the nature of the threat posed and the nature of the accused's response.

The judge, the Rt. Hon. Sir Brian Neill ( UKELA's President, the Rt. Hon. Lord Slynn of Hadley, was sadly unable to attend because of medical treatment) dismissed the appeal on both grounds. He found that Frivolous Pursuits Ltd was not able to avail itself of the section 33(7) defence and the company was vicariously liable for the offence of unlawful deposit of controlled waste. Furthermore, the defence of necessity was not available. The criminal law extends such a defence to acts which are done to prevent imminent danger/injury. The act by Frivolous Pursuits Ltd was not done, for example, to avoid injury to the public; there was no danger.

Even though a legal ruling in the Defendants' favour does not necessarily mean that the winners of the moot will be the Defendants (as winners are chosen on their skills of persuasion and presentation, clarity

of expression, and preparation of skeleton arguments etc), the winners of each competition were the Defendants, too. The winners of the Lord Slynn Trophy (the senior competition) were Sasha Blackmore and Michael Clark. Anna Legge and Stephen Weiner were the runners up. The junior competition winners were Claire Howell and James Hanlon. The runners up were Katherine Hart and Jennifer Hamill.

The finalists also received academic and practitioners books kindly and generously given by Sweet & Maxwell, free UKELA membership provided by UKELA's Council, and a cash prize from 2 Harcourt Buildings (who also provided the venue and the drinks and sandwiches afterwards). Our warm thanks go to all our sponsors. A huge thanks is also due to Vicki Elcoate, UKELA Executive Officer, and Andrew Wiseman, UKELA Chairman, for their support in making the 2005 moot such a success. Photos of the finalists are available on the UKELA website: [www.ukela.org](http://www.ukela.org)

These moots have been an excellent way of promoting environmental law and UKELA to young people. Both moots attracted the biggest number of entrants these competitions have ever had, entrants from England, Scotland and Ireland, and UKELA hopes that the enthusiasm shown will grow in future years, too. In addition, UKELA student membership seems to be growing and this is something UKELA is very keen to encourage through such moots and other students events e.g. Andrew Lees Prize competition; annual UKELA conference student participation; university road-shows etc. For more information as to student membership and student participation, please visit UKELA's website and view the students' page under "groups": [http://www.ukela.org/groups/mn\\_groups\\_frame.asp?fr=mn\\_groups\\_students.html](http://www.ukela.org/groups/mn_groups_frame.asp?fr=mn_groups_students.html)

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**UKELA Annual Conference  
17 – 19 June 2005  
Edinburgh**

**Programme**

**Friday 17 June**

**4.00pm-5.30pm**

Registration

**5.30pm-6.30pm**

Conference Session  
**Professor Bill McGuire UCL,**

**CATASTROPHES TO COME: GLOBAL GEOPHYSICAL EVENTS AND THEIR IMPACTS**

**6.30pm-7.30pm**

Welcome Drinks

**7.30**

Dinner

**SATURDAY 18 JUNE**

**7.30am-9am**

Breakfast

**9.00am-10.30**

Conference Sessions

	<b>1. FUTURE OF ENVIRONMENTAL LAW &amp; LAWYERS</b> <b>Professor Richard Macrory CBE (30 mins)</b> <b>Professor Stephen Tromans (30 mins)</b>	
	<b>2. PRODUCER</b> Adrian Harding, Policy Adviser (Producer Environment Agency (30 mins)	Responsibility)
<b>10.30am-10.45am</b>	<b>UKELA AGM</b>	
<b>10.45am-11.45am</b>	Working Party Sessions incorporating Coffee Break	
<b>11.45am-12.45pm</b>	<b>DEVOLUTION AND DIVERGENCE OF ENVIRONMENTAL LAW: CONTRASTING APPROACHES TO THE IMPLEMENTATION OF THE WATER FRAMEWORK DIRECTIVE IN ENGLAND, WALES, SCOTLAND AND NORTHERN IRELAND.</b>  <b>Martin Griffiths, Head of the Water Framework Directive programme EA (England &amp; Wales)</b>  <b>Martin Marsden, Head of Water Quality SEPA (Scotland)</b>  <b>Gordon McCreath, Dundas &amp; Wilson (NI and Water Company perspective)</b>	
<b>12.50pm-1.15pm</b>	<b>EU PRESIDENCY ISSUES</b> Minister for Environment and Rural Development, Ross Finnie MSP	
<b>1.15pm-2.00pm</b>	Lunch	
<b>2.00pm-5.00pm</b>	<b>ACTIVITIES AND TOURS (to be confirmed)</b> <i>Dunlaw Windfarm</i> <i>Distillery</i> <i>Scottish Parliament</i> <i>Falkirk Wheel</i>	
<b>8.00pm-11.30pm</b>	Gala Dinner, Dynamic Earth Guest Speaker <b>Sir Kenneth Collins, Chairman of SEPA</b>	

**SUNDAY 19 JUNE**

<b>8.30am-10.00am</b>	Breakfast	
<b>10.00am-1.00pm</b>	Conference Sessions	
<b>10.00am-11.00am</b>	<b>INDUSTRY SPEAKER</b> <b>Christopher Bond, Legal and Environment Director Argent By- Products Group (30 mins)</b>	

	<b>ENVIRONMENTAL JUSTICE/PUBLIC PARTICIPATION, Sir Crispin Agnew of Lochnaw Bt QC (30 mins)</b>
<b>11.00am-11.30am</b>	Coffee Break
<b>11.30am-12.30pm</b>	<b>ENVIRONMENTAL PLANNING/NATIONAL PARKS, Alastair McKie, Anderson Strathern Head of Planning (30 mins)</b>  <b>Ruth Chambers, Deputy Chief Executive Council for National Parks (30 mins)</b>
<b>12.30pm-1.00pm</b>	Discussion
<b>1.00pm-2.00pm</b>	Lunch
<b>2.00pm</b>	Close of Conference

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## **SOCIETY FOR THE ENVIRONMENT**

### **UKELA COUNCIL SEEKS THE VIEWS OF UKELA MEMBERS**

The Society for the Environment has approached UKELA to see if it would like to join as a constituent organisation. If UKELA were to do this, UKELA members could apply to become a Chartered Environmentalist, a relatively new designation of professional standing.

We have asked the Chief Executive of the Society to provide information on what this would involve and the benefits it would bring. You will find this attached.

The cost to UKELA of joining as a constituent organisation is £2,500 p.a. with an annual subscription after that of £100 p.a. The cost to an individual of going through the accreditation process is £25 plus an administration fee (this would be between £20 and £75) plus the first annual payment of £25. The accreditation and administration would be carried out on UKELA's behalf by another constituent organisation, as UKELA has limited staff resources and the cost of this will be subject to negotiation. The annual fee is £25 p.a. to remain as a Chartered Environmentalist.

In order to be able to assess this proposal we should welcome your views on whether or not you would be likely to apply to become a Chartered Environmentalist, if UKELA were to take up this opportunity. There is no commitment at this stage.

Please email your views to [Vicki.elcoate@ntlworld.com](mailto:Vicki.elcoate@ntlworld.com) or return it by post to The Brambles, Cliftonville, Dorking, RH4 2JF. We should be very grateful for your views on this matter in order to inform Council on the best way forward. **PLEASE RETURN BY MAY 27<sup>TH</sup>.**

### **What is SocEnv?**

The Society for the Environment (SocEnv) is an independent organisation, comprising professional bodies and learned societies (Constituent Bodies), sharing a common vision of a sustainable environment achieved through best practice environmental action.

The Society is incorporated by Royal Charter to develop and regulate environmental practitioners and to be a leader in environmental affairs and sustainable development for the public benefit.

### **What SocEnv does**

SocEnv aims to deliver its vision through better understanding and awareness of sustainable environmental management, standards and practice for the public benefit.

To achieve this SocEnv:

- Regulates the profession of environmental practice through the Chartered Environmentalist qualification.
- Seeks to influence governments, policy makers and opinion formers on all aspects of the environment by drawing on and pooling the knowledge and experience of its Constituent Bodies and their members.

### **Chartered Environmentalist**

The Society's Charter enables members of Licenced Constituent Bodies to attain the status of Chartered Environmentalist (CEnv), which recognises their virtuosity in sustainable environmental management and development. Applicants will need to demonstrate professionalism in a way that is transparent and rigorous.

The Chartered Environmentalist qualification enables the use of the designatory letters CEnv. It embraces a wide range of disciplines, is an excellent way of doing this. Visit our website for application criteria: [www.socenv.org.uk](http://www.socenv.org.uk)

### **The benefits of Chartered Environmentalist**

The designation of Chartered Environmentalist benefits all concerned with the environment as it adds value to:

- **The Public**, who can be confident in the knowledge and competence of an environmental practitioner.
- **Practitioners** by identification as a professionally qualified environmentalist that puts them at the forefront of their profession.
- **Employers**, with confirmation of the professional ability and competence of employees and applicants.
- **Governments and governmental bodies** seeking to appoint advisers or consultants will be assured about an individuals competence.
- **Professional Bodies**, who will be able to benchmark the qualification for membership purposes.
- **Higher Education**, in setting and monitoring benchmarks for environmental courses, and promoting study programmes.
- **Regulatory Bodies**, who could be confident in specifying the CEnv designation in Acts of Parliament and regulations.
- **Legal credibility**, enabling expert witness participation at a defined standard.

- **Professional standing**, recognising equality of excellence across a wide range of environment disciplines.

### **How to become a Chartered Environmentalist**

Only those Constituent Bodies that are Licensed by the Society to grant the Award of Chartered Environmentalist may confer the qualification on their members. The number of Licensed Bodies is growing and you should check our website for an up to date list: **[www.socenv.org.uk](http://www.socenv.org.uk)**

Provided you are a full voting and qualified member of a Licensed Body of the Society and have attained 12 units of learning where:

1 year of academic study = 2 units

1 year of vocational experience = 1 unit

and the total of 12 units includes at least 4 years vocational of relevant vocational experience, then you are eligible for assessment as a Chartered Environmentalist.

You should contact your Licensed Constituent Body for more details of the assessment process.

If you are not a member of a Licensed Constituent Body but are interested in becoming a Chartered Environmentalist, please visit the Society's website: [www.socenv.org.uk](http://www.socenv.org.uk) for a list of professional bodies and learned societies who are Licensed to receive and assess applications.

### **Why you should be a Chartered Environmentalist?**

As a practitioner you will be aware of the significant global environmental challenges that face us. Public expectation and demands on your knowledge and experience will continue to increase. And you will need to demonstrate your professionalism with ever greater rigour and transparency. One way of doing this is through an independently regulated qualification that cuts across all professional disciplines - Chartered Environmentalist. So, now is the time to prove the value of what you do for a more sustainable world.

### **What happens when you apply?**

Application is made by a standard package including a form. On receipt your Constituent Body will make arrangements for your application to be assessed. This will involve a professional review interview, or if your Constituent Body receives your application within the first twelve months after it has been licenced by SocEnv, then a fast track 'grandparenting' process will apply.

### **The future**

Identifying ways in which society attains the aspiration of sustainability is a duty all of us share. Only through the contributions of committed individuals will that aspiration be achieved.

The Constituent Bodies of the Society already have such individuals as members, but they wish to go further.

Through the expertise of its Constituent Bodies and their members the Society looks to help society move towards a sustainable environment through:

- Providing an inclusive platform in which debate may take place.
- Responding to consultations.
- Developing new policies which will deliver sustainability effectively.
- Encouraging and supporting its Constituent Bodies in the development and maintenance of the virtuosity of all the Society's Constituent Bodies members.

The Society for the Environment firmly believes that as individuals we cannot achieve sustainability alone, but together we will and must make a difference.

## **EVENTS**

### **\* IEEL Summer School: NEW SCHOLARSHIPS AVAILABLE**

The Siena Summer School on International and European environmental law, announced previously in the EEL News Service, has 16 full scholarships available. Each scholarship covers the full cost of the course fees and accommodations with holders expected to pay for their own travel costs. Scholarships will be awarded in May by the Academic Committee of the course (composed by representatives of the University of Siena and of University College London) based on merit and need. Applicants who wish to be considered for a scholarship should write to [ieel@unisi.it](mailto:ieel@unisi.it) and send a c.v. and a brief statement of why they are seeking the scholarship, why they wish to attend the course, and how it will assist their career development (max 500 words). Please check the web site [www.unisi.it/ieel](http://www.unisi.it/ieel) for further details. *Applications deadline is 30th April 2005!!!*

\* 10 May 2005, International Conference on the Integration of Wind Energy into the German Electricity Supply System, Berlin, Germany

The first coordinated strategy for the integration of wind energy into Germany's electricity supply system is presented. Results will be discussed in detail with experts and stakeholders. Conference languages: German and English. More information on <http://www.deutsche-energie-agentur.de>.

**15-17 June 2005, 7th Nordic Conference on Environmental Social Sciences (NESS): A New Generation and a New Climate for the Environment**, Göteborg, Sweden  
This event is hosted by the Faculty of Social Sciences, the School of Economics and Commercial Law, and the Centre for Environment and Sustainability at Göteborg University. More information on <http://www.7thness.org.gu.se/>

**16 - 17 June 2005, Emerging Carbon Markets: Can they deliver?** London, UK  
Examine the role of EU Emissions Trading Scheme in domestic, EU and international climate policies to reduce emissions! Attend to assess the carbon market, tackle the business practicalities and investment opportunities plus address concerns about EU ETS and its impact. [More](#) info at <http://www.chathamhouse.org.uk>

**\* 26-30 September 2005, International Experience and Perspectives on Strategic Environmental Assessment, Prague, Czech Republic**

The event is organized by the International Association for Impact Assessment and hosted by the Regional Environmental Center for Central and Eastern Europe & Czech University of Agriculture. The session of notable importance for the NIS region is: Legal and policy frameworks for SEA in Newly Independent States. The preliminary programme and registration materials for IAIA's global conference on Strategic Environmental Assessment is now on the IAIA web site, <http://HYPERLINK> "<https://mail.asser.nl/exchweb/bin/redir.asp?URL=http://www.iaia.org/www.iaia.org>. For more information on the respective session contact Aleg Cherp, Central European University, Budapest ([cherpa@ceu.hu](mailto:cherpa@ceu.hu)) or Henrieta Martonakova, UNDP Regional Center for Europe and CIS ([henrieta.martonakova@undp.org](mailto:henrieta.martonakova@undp.org)).

**UK ENVIRONMENTAL LAW ASSOCIATION**

Registered Charity number: 299498, Company limited by guarantee: 2133283

For information about working parties and events, including copies of all recent submissions contact.

General Secretary: Dr Christina BT Hill, MA Registered Office: Honeycroft House, Pangbourne Road, Upper Basildon, Berkshire  
RG8 8LP

Tel /Fax: (01491) 671184  
Email: [ukela@tiscali.co.uk](mailto:ukela@tiscali.co.uk)  
See also the web site at  
[www.ukela.org](http://www.ukela.org)

For information on the development of UKELA contact  
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01306 501320

**MEMBERSHIP ENQUIRIES**

To Richard Bines  
Email: [richard@sharpsredmore.co.uk](mailto:richard@sharpsredmore.co.uk)  
Fax: 01473 730030

**E - LAW**

The editorial team want articles, news and views from you for the next edition due to go out in June 2005. All contributions should be dispatched to Catherine Davey as soon as possible by email at: [Catherine.Davey@stevens-bolton.co.uk](mailto:Catherine.Davey@stevens-bolton.co.uk) no later than 26 May 2005.  
Please use Arial font 11pt

Letters to the editor will be published, space permitting

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