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1.0 Nuclear Subsidies

The [coalition agreement](#) allows new reactors to be built provided “*they receive no public subsidy*”. Energy Secretary, Chris Huhne, continues to [stress](#) there will be no subsidies. This all depends, of course, on your definition of a subsidy. Professor of Energy Policy at Greenwich University, [Stephen Thomas](#), says “*what the government and EDF believe constitutes a subsidy is very different to the usual definition*”. For a full exploration of hidden subsidies to the nuclear industry see the December 2009 [report by Energy Fair](#).

The coalition has already agreed to introduce a [floor price for carbon](#) in the European emissions trading scheme, which will [rig the carbon market](#) and increase electricity bills for households and businesses. It will “*transfer risk from the nuclear developer to the electricity consumer,*” and, in effect, subsidise nuclear power by the back door. But now there seems to be a **growing realisation that this will not be enough.**

September Update: A [study by KPMG](#) says new reactors will not be built if the Government persists with its promise not to subsidise new reactors. The carbon “floor price” will not be enough. Investment on the scale needed is unlikely to be achieved under the current framework and greater investment would be encouraged by a more consistent market design to reward low-carbon energy. [The report suggested](#) paying a premium tariff or setting a requirement for suppliers to source a certain amount of their energy from low carbon producers.

The real elephant in the room, says international law firm [Eversheds](#), is “*the amount of financial support (e.g. ROCs, feed in tariffs etc) which other low carbon technologies enjoy, the cost of which is borne by the consumer, and why such schemes should not be extended to new nuclear power. There should be a level playing field for all low carbon energy generating technologies.*” The [Adam Smith Institute](#) says it is much easier for a politician to continue with the renewable ‘stealth tax’ on consumers, which adds almost £300 a year to our electricity bills, than to raise a new tax to support new reactors.

Within the industry, there is a deep-seated fear that Britain's current funding plans will not be sufficient to see the first cement poured in the ground. Both E.ON and RWE who hopes to build new stations at Wylfa and Oldbury agree the carbon floor price will not be enough. EDF, which was the main campaigner for a carbon floor price, could benefit from a £350m a year windfall from existing plants (which other utilities don't have). But now [even EDF no longer believes a carbon floor price will be enough](#) to kick-start nuclear building.

As a consequence of all this, when Chris Huhne appeared again on [The Today Programme](#) insisting that his views on nuclear power had been misunderstood - he is in favour of new reactors as long as they can be built without subsidies – and that we are on course to launch the first new reactors by 2018, many commentators accused him of “*an extraordinary U-turn on nuclear policy*” while others accused him of being “*on a mission to stop all nuclear development*”. The [Spectator](#) said you could almost hear the thumbscrews being tightened.

2.0 Fixed Unit Price for Waste Disposal

The UK Government held a consultation on the methodology for determining how a [fixed unit price for disposal of nuclear waste](#) will be set, which closed on 18th June 2010. (See [New Nuclear Monitor No. 21](#)) The consultation document set out changes to earlier proposals. The original plan was to charge a relatively high fixed unit price for waste disposal in an attempt to protect the taxpayer from having to pick up the tab and allow for all the uncertainties. But the [industry argued it was much too high](#). The revised proposal allows operators to set aside a much lower amount for the first 10 years of a reactor's operation in the hope that uncertainties will be reduced over that time. The second change being proposed is that the Government would take title to nuclear waste and spent fuel earlier, so that it is aligned with the operators decommissioning timetable rather than waiting for the Geological Disposal Facility (GDF) to be available. In effect the taxpayer will take title 60 years after the reactor starts rather than 110 years after.

September Update: The Nuclear Free Local Authorities (NFLA) wrote to Chris Huhne urging him to withdraw the previous Government's proposed methodology for determining a Fixed Unit Price (FUP) for waste disposal from new nuclear reactors which effectively caps the cost to the operator and transfers the risks of cost overruns – a usual occurrence in the nuclear industry – to the UK taxpayer. In other words, it would be a hidden public subsidy for new nuclear build. His reply, dated 15th August, appeared to reject this course of action and merely stated that all responses to the consultation would be given due consideration.

3.0 Draft National Policy Statements

The UK Government published its draft National Policy Statement on nuclear power ([Nuclear NPS](#)) in November, along with five other NPSs covering energy. The consultation period ended on 22nd February 2010.

Under the Planning Act 2008 the Nuclear NPS will establish the 'need' for new reactors, so the subsequent planning process will only deal with site specific issues. For an overview of the Nuclear NPS see [New Nuclear Monitor No.19](#), and the NFLA [response](#) to the consultation.

September Update: The Government is to [launch a re-consultation](#) on the National Policy Statements (NPSs) in the autumn to ensure they are "fit for purpose". Energy Minister, Charles Hendry, said he wants to strengthen the Statements and make sure large energy projects are not subjected to unnecessary hold-ups. [He hopes](#) to present the finalised NPSs to Parliament for ratification in spring 2011.

The main reason given for the re-consultation is that changes have been made to the Appraisals of Sustainability (AoSs), in particular the AoS for the Overarching Energy NPS EN-1. (**EN-1** points out that, as energy policy is a reserved matter, it **may be a relevant consideration in planning decisions in Scotland**).

Appraisals of Sustainability are documents that set out the expected environmental, economic and social impacts of the 'plan or programme' that the NPS represents. They therefore encompass the EU requirement for a Strategic Environmental Assessment, which is the [equivalent of environmental impact assessment](#) but for policies rather than projects. The AoSs were the subject of considerable criticism from witnesses appearing before the House of Commons Energy and Climate Change Select Committee when it considered the draft NPSs. A major difference of opinion centered on which alternatives to the 'plan or programme' should be appraised. The Government's view was that the alternative to an NPS is not having an NPS. Environment groups, however, argued that policies should be compared with alternative policies.

The Bradwell Against New Nuclear Group (BANNG) says the Government does not intend to revisit the sites or to hold public meetings. *“It is quite clear that the Government intends to follow up the earlier consultation with one that is even more inadequate”*, said Andy Blowers, Chair of the Blackwater Against New Nuclear Group (BANNG). *“This is a pathetic response to the many demands for much greater participation in a decision that will affect our lives and those of generations to come.”*

4.0 Infrastructure Planning Commission

The Infrastructure Planning Commission (IPC) is not expected to be abolished until April 2012. New primary legislation has to be brought forward to close it, but until that is in place the [IPC will continue to consider and determine applications](#). The measures as expected to be introduced later in 2010 via the [Decentralisation and Localism Bill](#), which the government hopes will become law in 2011.

September Update: EDF Energy has started the formal pre-application process for the authorisation of Hinkley Point C nuclear station in Somerset. This involves a [pre-application consultation](#) which is open until 4 October 2010. The planning application is currently timetabled to be made in December 2010.

It is still possible that a decision on the application could be made by the IPC before April 2012. It is likely that the IPC will appoint three commissioners to examine the application, and may also appoint assessors.

Meanwhile local anti-nuclear group, [Stop Hinkley](#), has been complaining that up to five hundred acres of species-rich woodland, hedgerows and fields could be destroyed by EdF even before it receives full planning consent from the IPC. EdF has signaled it wants permission to undertake the premature destruction well in advance of their expected planning submission to the IPC in December.

5.0 Generic Design Assessment

The nuclear regulators – the Health and Safety Executive (HSE) and Environment Agency – have been carrying out a new process called 'Generic Design Assessment' (GDA), which looks at the safety, security and environmental implications of new reactor designs before an application is made to build that design at a particular site. The GDA should be completed by June 2011, when the regulators would issue statements about the acceptability of the designs. But progress has been [slow](#), partly due to [staff shortages](#), and partly due to [“significant delays”](#) in obtaining responses to technical queries from the so-called Requesting Parties (RPs). Further information on the GDA process is available [here](#). UK Nuclear Regulators Nuclear Reactor Assessment [web-pages](#).

September Update: The [Health and Safety Executive \(HSE\) says](#) it may only be able to issue "interim" approvals for the Areva EPR and Westinghouse AP1000 reactor designs at the end of the generic design assessment (GDA) in June 2011. Construction could only occur after any outstanding "GDA issues" have been resolved. Many technical issues remain unresolved for both designs with some unlikely to be resolved before next June. The NII has highlighted eight out of 18 topical areas on the EPR and 11 out of 18 topical areas on the AP1000 that it said had unresolved technical issues.

The HSE's director of the assessment programme, Kevin Allars, promised there would be no repeat of the chaotic construction in Finland where the regulator tries to approve each component of the design while it is being built. The HSE said the companies behind the designs had [repeatedly submitted incomplete information](#) which was late. In turn, the companies are blaming the regulator for not having sufficient resources to carry out the work. Westinghouse, which has put forward its AP1000 reactor design, comes in for particularly harsh criticism. Allars said of the company: *“It's very*

frustrating. We get a load [of work] in late and then we do not get what we were promised or of the quality we were promised. If this carries on they won't get a design acceptance."

Whilst in the UK the HSE says it now believes an acceptable position can be reached regarding concerns about the digital control and instrumentation system on the EPR, this does not appear to be the case in America. The [latest letter](#) from the US Nuclear Regulatory Commission (NRC) to Areva shows the reactor designer still needs to convince the regulator its digital instrumentation and control systems meet requirements.

The Environment Agency has launched a [consultation](#) on its part of the reactor assessment process and its findings so far. The Agency is looking at liquid and gaseous emissions and disposals to land of radioactive waste from the new designs. This will be dealt with in the waste section.

6.0 The Justification Process

A [Justification exercise](#) is required under EU law to ensure that new reactors have an overall benefit which outweighs any health detriment caused by radiation. The Government held a [consultation](#) on the Nuclear Industry Association's application to justify new reactors which closed on 25th March 2009. (See [New Nuclear Monitor No.15](#)). Several respondents questioned whether the Secretary of State should be acting as the Justifying Authority. A number of respondents called for a public inquiry, provision for which is allowed in the legislation. The Government launched a consultation on its [Proposed Regulatory Justification](#) decisions on two new types of reactors in November 2009. The consultation closed on 22nd February 2010. See [New Nuclear Monitor No.18](#).

September Update: In a letter to the Nuclear Free Local Authorities, Chris Huhne said he is aware possibility of a public inquiry has been raised. He will take a decision on this and the justification decisions themselves when he has considered the responses to the consultation. We are still waiting for an opinion from the Committee on Medical Aspects of Radiation and the Environment (COMARE) on the [German KiKK study](#) which provides irrefutable evidence that leukaemia risks are more than doubled among children living near nuclear reactors.

7.0 Nuclear Costs and Finance

The Blair Government's first Energy White Paper in February 2003 concluded that "...*the current economics of nuclear power make it an unattractive option*". By January 2008, the White Paper on nuclear power said "...*on the basis of our cost-benefit analysis, we believe that nuclear power is likely to be an attractive economic proposition...*" What has changed?

An [October 2008 briefing](#) on nuclear costs and finances discusses this. In the US, nuclear costs are out of control as reported in this [February 2009 update](#) on costs and finances. [Dr Mark Cooper analysed](#) three dozen recent cost projections, and concluded that the likely cost of electricity from new reactors would be 12-20 cents per kilowatt hour (c/kWh) (8- 14p/kWh at June 2010 exchange rates) - considerably more expensive than the average cost of energy efficiency and renewable energies.

September Update: Utilities building new nuclear power plants in the U.K. may have to spend as much as [£6 billion on each plant](#), according to minister of state for energy Charles Hendry. The [2008 White Paper](#) (para 2.48) gave a figure of £2.8bn for a first of a kind EPR. Perhaps Hendry was talking about a two reactor nuclear plant – but, at best costs have gone up to £3bn and the idea of costs falling after the first reactor is built seems to have been dropped; at worst costs have doubled in two years.

8.0 Nuclear Diverting Attention from a Local Energy Revolution

A wide range of energy and carbon emissions scenarios for the UK and Scotland suggest that with the right combination of energy efficiency measures, renewable energy, transport measures, and possibly carbon capture from fossil-fuelled power stations, emissions reductions of over 80% by 2050 are feasible. Nuclear power is not a prerequisite of the UK meeting its climate change objectives. The danger of nuclear investment is that it will [crowd out investment in renewables](#) and undermine energy efficiency. If we divert attention political effort and resources from the urgent programmes needed to effectively tackle climate change not only will we miss our targets, but as past experience suggests we could end up with carbon emissions still rising in 2025 because the nuclear programme has been hit by the usual problems and delays.

September Update: A new group, called “[No Need for Nuclear](#)” has been circulating a [broadsheet](#) which asks people to ask their MP to sign [Early Day Motion No. 557](#). This calls on the government to suspend all plans for new nuclear build and launch an investigation into the need for new reactors and whether they are the best way to reduce carbon dioxide emissions and create jobs. The Labour MP for the Gower, Martin Caton, who tabled the motion, says if new nuclear power stations are built they will not come into operation before 2019 and therefore cannot assist with plugging the energy gap which Ofgem have said may happen as soon as 2015. The broadsheet presents evidence submitted to Parliament by the Sustainable Energy Partnership which shows that even if demand for electricity increases by 50% by 2050 there is still no need for new nuclear.

Whilst the previous Government’s Low Carbon Transition Plan only expected 2% of UK electricity to come from small-scale renewables by 2020, others say the figure could be much higher. The Chief Executive of National Grid, Steve Holliday, for example, says 15% of the country’s electricity production could come from so called “embedded generation”. Research by the [Energy Saving Trust](#) shows that microgeneration could provide around 30-40% by 2050, or closer to 10% by 2020.

The Government will now [allow local councils to sell renewable electricity](#) to the National Grid and is urging them to position themselves at the forefront of a power revolution. At present only 0.01% of electricity in England is generated by local authority-owned renewables. In Germany the equivalent figure is 100 times higher.

Since the launch of feed-in tariffs in April [20.7 MW of microgeneration capacity](#) has been installed – 6.4 MW of which has been in the commercial sector. One company, HomeSun has launched a scheme to provide [100,000 homes with free solar panels](#), and [Solarcentury has teamed up with General Electric](#) to launch a scheme to help schools to invest in renewable energy. GE Capital will pay for installing solar panels, after receiving a small deposit from a school. A lease will then be paid back over 15 years, using income from the feed-in tariffs.

Now we need to see how well the new Government will tackle the fuel poverty issue. The [daunting task of renovating 12,500 homes a week](#) for the next 40 years is to be the subject of a major new £3m research project designed to establish whether mass produced building technologies could improve the efficiency of Britain’s cold and draughty housing stock.

The Government is planning to introduce a [Green Deal scheme](#), which will use low-interest loans to help households and businesses pay for energy-efficiency improvements. But the initiative won’t start until 2012. (18)

9.0 Scottish Alternatives to Nuclear

It has been clear for a while that Scotland is well placed to meet [100% of its electricity](#) requirement from renewables in the not too distant future, and a report by [Scottish Natural Heritage](#) (SNH) suggests this might be relatively easy.

A [briefing](#) from the Nuclear Free Local Authorities details how Scotland could meet 179% of its electricity requirements with renewable energy not long after 2020. The Scottish Government's target is to produce 50% of Scotland's electricity from renewables by 2020 - around 8,000MW (8GW). There is already an installed renewable capacity of around 2834MW, plus 3739MW with planning permission but not yet built, bringing the total to 6573MW. A further 9,000MW is awaiting planning consent, with an additional 8,500MW of offshore wind and between 500MW and 2,000MW of marine renewables under development and scheduled for completion by 2020.

September Update: Scotland came a step closer to achieving its 2GW target for wave and tidal energy by 2020 with the [announcement](#) that a Scottish company has won the contract to build one of the world's most advanced tidal energy turbines. The contract could kickstart a marine energy manufacturing boom because Scottish Power wants hundreds more turbines to be built in the next few years, creating the prospect of thousands of jobs for Scotland. Fife-based BiFab (Burntisland Fabrications), which traditionally has manufactured equipment for the North Sea oil and gas industry, has won the £4m series of contracts. It will build Scottish Power's first full-scale working prototype device, which the company claims is the world's most advanced. The design will be used for the 10MW tidal energy project, the largest in the UK and potentially in the world, in the Sound of Islay. The prototype turbine, which will be built by BiFab in Stornoway, on Lewis, has been developed by Hammerfest Strøm, a joint venture between Scottish Power, Norwegian energy group Statoil and other energy companies. Thousands more of the tidal energy turbines could be manufactured in the next decade and beyond for use in Scotland. According to a government report, the fast-moving currents of the Pentland Firth could eventually generate up to 4GW of electricity, more than enough to supply Glasgow and Edinburgh. More than 7% of the world's tidal energy resource is also thought to be in Scottish waters.

The world's first [floating wind farm](#) may soon appear off the coast of Scotland, following discussions between Alex Salmond and the Norwegian oil company Statoil, which has identified two potential sites off the coast of Lewis and Aberdeenshire. The proposal would allow tests of the firm's Hywind floating turbines opening the door to a full-scale scheme. The company is expected to visit Scotland to investigate the sites further.

10. Scottish Waste Consultation

The Scottish Government consultation on proposals for managing higher activity waste in Scotland closed on 9th April 2010. There were three consultation documents: (1) [a Consultation Document](#) (2) [An Environmental Report](#) and (3) [Supplementary Information](#). Scottish Government policy since June 2007, in contrast to England and Wales, has been to support the long-term management of higher activity waste in long-term near surface, near site storage facilities so that waste is monitorable and retrievable and the need for transporting it over long distances is minimal. But new proposals, although not returning to deep geological disposal, appear to abandon the storage only commitment and prioritise near surface, near site disposal over storage.

The NFLA model response to the consultation is available [here](#). A submission by Nuclear Waste Advisory Associates is available [here](#).

September Update: The Scottish Government has begun a series of meetings to present the results of its consultation. The first was held in Ayr on 7th September to be followed by Inverness on 28th September and Edinburgh 1st October.

There were 63 responses to the consultation, including 23 from local authorities. At a recent meeting with NFLA representatives it was stressed that the Scottish Government's basic policy remains storage. Near surface disposal would be allowed if a safety case can be made, and it would have to be shown that the waste could be monitored and retrieved if necessary – even though retrieving the waste is not the intention. (Not having an intention to retrieve is what defines it as 'disposal').

A revised policy and response will be published at the end of 2010. It will include an additional Environment Report explaining why the Scottish Government is not in favour of geological disposal.

Magnox North issued a [press release on 18th August](#) announcing that it is assessing the technical viability and potential siting locations for permanent disposal facility which would be located several tens of metres below ground for graphite waste at Hunterston A. Early exploratory work is expected to start in September. The feasibility study will assess options for the concept design of a near-surface facility and possible locations on site.

Placing the graphite waste in a near-surface disposal facility would be instead of putting it in the above ground storage facility already built at Hunterston. Magnox North says the disposal facility would be in line with Scottish Government policy which is to: "... support long-term near surface, near-site storage or disposal facilities so that the waste is monitorable and retrievable and the need for transporting it over long distances is minimal."

Although the proposed disposal facility would allow for monitorability and retrievability, thus dealing with some of the objections, placing graphite waste in such a facility means there would then be spare capacity in the existing Intermediate Level Waste store. Local people will be concerned that this implies importing waste to Hunterston from outside of the area.

11. Managing Radioactive Waste Safely Process

The UK Government began the '[Managing Radioactive Waste Safely](#)' process in September 2001 to decide how to develop radioactive waste policy following the 1997 decision to reject plans for a so-called Rock Characterisation Facility at Sellafield. This culminated in the publication of a [White Paper: Managing Radioactive Waste Safely: A Framework for Implementing Geological Disposal](#), in June 2008. A briefing on the "Managing Radioactive Waste Safely" process is available [here](#).

The Scottish Government does not accept it is right to bury nuclear waste in an underground site: "*This out of sight, out of mind policy should not extend to Scotland*". The [West Cumbria Managing Radioactive Waste Safely](#) (WCMRWS) Partnership has been set up as an advisory body aiming to "*make recommendations to Allerdale Borough Council, Copeland Borough Council and Cumbria County Council on whether they should participate or not in the geological disposal facility siting process, without commitment to eventually host a facility*".

[History of Radioactive Waste Dumping Proposals.](#)

September Update: The Nuclear Decommissioning Authority's (NDA's) Radioactive Waste Management Division (RWMD) has set out [the steps it believes will be required](#) for the successful implementation of geological disposal. It expects to have a Generic Safety Case for a Geological Disposal Facility (GDF) available in September. This will be open to consultation until December. The NDA expects a GDF to be available by 2040 and estimates the cost to be around £4bn. The repository project director Alun Ellis has [warned against cutting](#) the NDA's budget. Cuts on the scale being talked about could effectively suspend the repository scheme.

The West Cumbrian Managing Radioactive Waste Safely (MRWS) Partnership has been discussing the inventory of waste which a community expressing a willingness to host a GDF might be expected to host. The Government's Managing Radioactive Waste Safely (MRWS) White Paper used a Baseline Inventory of higher activity radioactive waste – but this only included legacy waste (from existing reactors and facilities) and some materials which might be classified as waste in future such as spent fuel which has not been reprocessed; plutonium and uranium extracted during reprocessing; and uranium from nuclear fuel manufacturing.

The NDA told the Partnership a 10GW new reactor programme would double the repository footprint (i.e. the area of land underground used to emplace waste). The Partnership has also been encouraged to look at a maximum possible inventory with a new reactor programme going up to 16GW. This could virtually triple the repository footprint. Given the NDA has calculated that a 10GW programme could use up more than half the total allowable risk for a GDF, a 16GW programme would probably mean a second nuclear dump would be required.

The NDA says compared with legacy waste and existing spent fuel, [no new issues arise](#) that challenge the fundamental disposability of wastes and spent fuel from new reactors. But it acknowledges that higher burn-up fuel will require a longer cooling period – perhaps up to 100 years. In any case the [Government says all legacy wastes](#) may not be emplaced until 2130. With an expected reactor life of 60 years, this means the GDF could be required to remain open until almost 2200.

Meanwhile a councillor from one of the two West Cumbria local authorities to have expressed an interest in hosting a dump – Allerdale Borough Council - is [calling on colleagues to withdraw](#) from the process. This issue is likely to be discussed on [22nd September](#).

The British Geological Survey (BGS) study of the geology of West Cumbria, commissioned by the Government, is due to be published at the next Partnership meeting on 29th September. This work will only show areas which are clearly unsuitable on geological grounds. A more rigorous assessment will only be undertaken if West Cumbria makes a 'decision to participate' further in the Government process.

One of the key roles of the Partnership is to ensure that local people have the information they need to come to their own view on whether or not West Cumbria should fully participate in the Government search for a site for a geological disposal facility. The Partnership is now finalising plans for the second stage of its comprehensive public and stakeholder engagement (PSE) programme. It is producing a pack of materials for members of the public which will be available from mid-October.

12. Deep Geological 'Disposal'

The Committee on Radioactive Waste Management (CoRWM) describes 'disposal' as emplacing waste in a facility without the intention of retrieving it. The dictionary definition of disposal is "*the act or means of getting rid of something*". So-called radioactive waste 'disposal' involves the eventual dilution and dispersion of radionuclides throughout the environment, so this is a misnomer. It does not 'get rid' of waste. This goes to the heart of the fundamental difference between an environmental and nuclear industry approach. Supporters of deep 'disposal' argue it is this generation's responsibility to 'get rid' of waste we have created. An environmental approach argues we have a responsibility to give future generations a choice about how to deal with it, rather than leaving a radioactive waste dump which will contaminate the environment at a poorly predictable rate.

September Update: The NDA is expected to produce a draft response to the Nuclear Waste Advisory Associates' list of [101 outstanding scientific and technical issues](#) which still need to be resolved in

September. The response will then be finalised when the generic safety case consultation is finalised by the end of the year.

13. New Build Waste

The Environment Agency has released its assessments of two new reactor designs for consultation. The two 200-page consultation documents, and 28 additional documents deal with spent fuel and waste management and liquid and gaseous radioactive discharges. This is part of the Generic Design Assessment (GDA) which the Agency is carrying out with the Health and Safety Executive. The consultation runs until 18th October 2010. The Environment Agency Consultation Documents are available [here](#).

The Areva EPR and the Westinghouse AP1000 reactor designs could be granted statements of design acceptability, according to the Agency, subject to more information on the long-term storage of spent fuel in order to "*understand whether there is any potential for degradation for the fuel that might affect its disposability.*" Spent fuel is expected to be stored in "interim" storage facilities for as much as 100 years after the reactors close before a deep geological disposal facility (GDF) is available.

The NDA's so-called "[disposability assessments](#)" of spent fuel from new reactors were used in the Draft Nuclear National Policy Statement to justify the Government's conclusion that it is "*satisfied that effective arrangements will exist to manage and dispose of the waste that will be produced from new nuclear power stations.*" The disposability assessments should have been reviewed by the Environment Agency with its conclusions being made available for public comment as part of this consultation exercise, but the EA critique is quite limited. Given public concern regarding the use of 'high burn-up' fuel which will produce hotter, more radioactive waste this is a particular concern.

Despite the huge quantity of material the Agency fails to explain how plans to approve new radioactive waste discharges into the environment can possibly be consistent with commitments made by the UK Government to the OSPAR Convention to achieve close to zero concentrations of artificial radioactive substances by 2020. Nor do the documents explain to the ten communities around potential nuclear sites how nuclear waste will be stored on site, or for how long; whether their site will require a waste encapsulation plant and whether the waste will be 'disposable' in a Geological Disposal Facility (GDF) with an adequate safety case. Communities on transport routes between the sites and the GDF have no idea whether or when waste may be transported through their communities, and we still cannot be sure that some unsuspecting community will not find it has been designated as the site for a centralised waste store.

The Nuclear Industry Association (NIA) has contracted the NDA's Radioactive Waste Management Directorate (RWMD) to undertake [initial feasibility studies](#) on several key issues associated with spent fuel management including: alternative Geological Disposal Facility (GDF) design options for new build spent fuel; issues associated with centralised spent fuel storage; issues associated with centralised spent fuel packaging; consideration of alternative spent fuel cask designs.

14. Low level waste

The UK's main low-level waste dump, operated by [The Low Level Waste Repository \(LLWR\) Ltd](#), is located 7km south east of Sellafield near Drigg. The site is owned by the NDA, but operated by UK Nuclear Waste Management Ltd - a consortium led by Washington Group International with Studsvik UK, Serco and Areva. Vault 9 at Drigg [opened in July](#) 2010.

LLWR Ltd set up, in partnership with the NDA, the [National Low Level Waste Strategy Group](#) in April 2008. The Strategy Group provides information on the development and implementation of a National Low Level Waste (LLW) Strategy. SCCORS and NuLeaf are both [listed](#) as members of the Strategy Group.

The NDA [consulted](#) on how to manage low-level radioactive waste (LLW) in June 2009. It set out a framework for the flexible management of LLW, which is likely to lead to a proliferation of smaller dumps for LLW around the UK. [Radioactive Waste Briefing No.20](#) provided a model response.

[Scotland's National Planning Framework](#) (Para 172) states that a low level waste disposal facility, in addition to the one at Dounreay, will be needed in the South of Scotland for radioactive waste.

September Update: In August, the NDA published its [post consultation response](#) to issues raised in last year's Solid Low Level Radioactive Waste Strategy Consultation. It also published its finalised [Solid Low Level Waste Management Strategy](#) and associated [Strategic Environmental Assessment](#).

The Department for Energy and Climate Change along with the Devolved Administrations is [consulting](#) on a Future Exemptions Regime under the Radioactive Substances Act 1993 and the Environmental Permitting Regulations 2011. The package of information concerning the disposal of certain radioactive wastes in landfill sites includes draft legislation for Scotland (as well as England and Wales and Northern Ireland). This has worrying implications for local authorities in particular the way it defines artificial radioactive substances as naturally occurring. Radiation dose assessments made by the Health Protection Agency for naturally occurring radioactive substances appear to be used for artificial substances. The NFLA Steering Committee will be producing a model response to this consultation.

15. Radioactive Discharges

The UK Government published a [Strategy for Radioactive Discharges 2001-2020](#) in July 2002, as a response to its commitments, agreed at the 1998 Ministerial meeting of the Oslo and Paris (OSPAR) Commission - the treaty for the protection of the marine environment of the North-east Atlantic - to achieve "*substantial reductions or elimination of discharges*" by the year 2020, "*to levels ...close to zero*".

In July 2009 the Government (including the devolved administrations) published a [revised strategy](#). The 2002 strategy was written in the context of a declining UK nuclear industry, but this new strategy allows for expansion, and accepts the UK's failure to close some of the most polluting facilities in the world. The revised strategy will not deliver the UK's commitments to OSPAR. The NFLA (Scotland) response to the consultation on the draft of this document (September 2008) is available [here](#).

The next [OSPAR](#) Ministerial Meeting will take place in Bergen 20th – 24th September 2010.

September Update: KIMO International submitted a paper entitled "Potential increases in radioactive discharges into the North- East Atlantic by the United Kingdom" to the postponed meeting of the Radioactive Substance Committee which held in Stockholm in July. KIMO argued that the downward trend in emissions from Sellafield over recent years has had more to do with technical problems than specific measures designed to reduce radioactive discharges. Efforts to resolve these technical problems are continuing, so levels of discharges could increase again. And discussions about the management of future spent fuel arisings are continuing in the UK, with the option of extending reprocessing still firmly on the table.

16. Dounreay

Dounreay was the UK's centre of Fast Reactor research between 1955 and 1994 but is now [described](#) as Scotland's largest nuclear clean-up project. Fast reactors, generally fuelled by plutonium, can, at the same time as generating electricity, convert a useless form of uranium into more plutonium. In 1988 the programme was cancelled, officially because of costs, but Fast Reactors have been a disaster world-wide with serious technical problems.

An underground, 65-metre deep, shaft was used to dump intermediate level waste (ILW) between 1959 until 1977, when a chemical explosion brought the practice to an end. A second facility, the ILW silo - a concrete-lined box built just beneath the surface - was used to dispose of waste between 1971 and 1998. Both of these need to be emptied and the contents made safe. [Contractors started to prepare the ground](#) for a major new plant to be built to retrieve waste from the shaft and silo in March 2009.

Another major problem is the appearance of [radioactive particles](#) in the environment. These small fragments of irradiated nuclear fuel have been mostly found on the seabed, on the Dounreay foreshore and on Sandside Beach, which is open to the public. 156 particles had been found on Sandside Beach up to August 2010. It will be around 200 years, before the activities of the larger particles have decayed sufficiently for them to no longer be considered a potential hazard. [Radioactive particles will keep polluting public beaches for decades to come](#). Improved monitoring of the beaches and the seabed and recovery of particles are really the only viable options. [Restrictions on seafood](#) from a two kilometer zone around Dounreay remain in place.

September Update: [Dounreay Site Restoration Ltd](#) (DSRL) has told its workforce the site closure plan has been significantly reworked to bring it into line with an annual cap on funding from the NDA announced earlier this year. It will take DSRL planners until December to review approximately 14,000 separate pieces of work still to be done to complete the site closure. The headline messages emerging so far include: A reduction in the size of DSRL this year of 102 posts; Further reductions of 30 posts in 2011/12 and 50 posts in 2012/13; A delay in the start of work to retrieve waste from the shaft and silo; Integration of a number of separate projects for decommissioning the site's two fast breeder reactors; A cheaper and innovative alternative to the £100 million treatment plant and store proposed for the bulk of the site's intermediate-level waste; Fluctuations in the target date for completion between 2025 and 2039, but likely to settle around 2032 by December, with some tightening of the timescale expected over the following 12 months.

A [floating platform has anchored](#) in position 600 metres offshore to begin tracking down fragments of nuclear fuel buried in the sediment using a remotely-operated underwater vehicle. The ROV is expected to search an area of seabed equivalent to 17 football pitches, or 12.5 hectares, during the summer weather window. Last year, during a smaller scale clean-up operation, more than 100 particles were lifted from an area around a disused effluent outlet.

17. Submarine Decommissioning

Up to five sites in Scotland have been considered by the Ministry of Defence for storing radioactive waste from decommissioned nuclear submarines according to documents obtained by the [Sunday Herald](#). In total 12 possible storage sites in the UK have been considered by the MoD. There are already 15 decommissioning submarines lying at Rosyth or Devonport and a further 12 are due to leave active service by 2040. Rosyth and Devonport will be used to cut up and dismantle the submarines, but the MoD's problem is what to do with the waste, especially the large reactor compartments which are the most heavily contaminated. In Scotland the MoD is apparently considering Dounreay, Faslane, Coulport, Rosyth and Hunterston. Among possible sites in the England are Devonport, Aldermaston and Burghfield.

The MoD was planning further [consultation](#) during 2010.

September Update: The public consultation has now been delayed until 2011, after the Scottish elections. It will consider both siting and criteria. The MoD published a Strategic Environmental

Assessment [Scoping Report](#) in June, but only for statutory consultation up to mid-July 2010. There are to be Pre-Consultation meetings at local and national level with local politicians, council officers, Stakeholders (industry) and Community-Based Organisations. The MoD's preferred option will be to cut up the reactor compartment, but the MoD will need to show all the options and explain the reason for its recommendation. One of these will be that the Reactor Vessel Compartment would have to be moved by sea if it is left intact.

At a recent meeting in Cardiff the [Nuclear Submarine Forum](#) (NSubF) agreed that its job continues to be to work for openness and prevent a Consultation whitewash. It will press for democratic, local public meetings where the MoD has to put their case.