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1. Huhne – u-turning or on a mission to stop nuclear?

NuClear News readers will be pleased to learn that, according to Energy Tribune, Energy Secretary Chris Huhne, *“is on a mission to stop all nuclear development”*. (1) In an article entitled “Britain’s New Tory Leadership: Why are they Forsaking Reliable Nuclear Power for Intermittent Wind Energy?” the website claims that, despite signing up to a deal by which he agreed to abstain from any Parliamentary vote to approve nuclear legislation, Huhne knows there is more than one way to undermine a pro-nuclear policy. Announcing there is “no money” for state subsidies is a good start.

Chris Huhne insisted, on the BBC’s Today programme, he has been the victim of a terrible misunderstanding. (2) We all believed he was anti-nuclear power, said *The Telegraph* but he’s not. (3) His previous position has been “misunderstood” and he is actually in favour of nuclear being part of the UK’s energy mix because he has *“no intention of the lights going out on my watch.”* How on earth could so many people have reached such a misunderstanding? Could his web-site on November 5, 2007, offer a clue? (4)

Huhne says the country is on course to have its first new generation nuclear power station open by 2018. Ben Ayliffe, senior nuclear campaigner at Greenpeace said Mr Huhne *“can perform u-turns until he becomes dizzy ...But that doesn’t change the fact that no nuclear power plants will be built without public subsidy.”* (5)

The Independent called it *“an extraordinary U-turn on nuclear policy”*, much to the relief of the nuclear industry. How describing nuclear power, less than three years ago, as a *“tried, tested and failed technology”* could be misunderstood is unclear. Even Huhne’s assertion that he simply opposed public subsidy for nuclear power is disingenuous; the previous government also wanted the private sector to pay. (6)

The SNP Westminster Energy spokesperson, Mike Weir MP, accused Huhne of being brazen and dishonest after switching from being unequivocally opposed to nuclear to becoming a cheerleader. He says, despite claims there will be no public subsidy for nuclear Huhne knows *"it is highly unlikely that any new reactors can be built in the UK without massive public investment"*. He calls the planned carbon floor price *"nothing less than a hidden public subsidy... There is absolutely no case for continuing to pour public money into this bottomless pit. We should be looking to developing clean green energy to provide a safe and sustainable energy future."* (7)

Behind Mr Huhne's bullish claims that the first new reactors will start opening in 2018 there is an awesome array of hurdles to be cleared first with unprecedented timeliness. Mr Huhne's efforts to allay fears of delay followed a Confederation of British Industry report warning that £150bn of private sector investment in low-carbon infrastructure including nuclear is being threatened by uncertainties in the planning regime. And the planning process is just one of a dizzying array of regulatory, political and financial questions that need answers in the next 18 months if construction is to begin at Hinkley Point in Somerset by next year. (8)

Firstly the Secretary of State has to make his decision on Justification - to decide whether a new class or type of practice resulting in exposure to ionising radiation is justified by its economic, social or other benefits in relation to the health detriment it may cause. This is now expected in the autumn. The Generic Design Assessment (GDA) to license the new reactor designs from Areva and Westinghouse is already underway. The process is due to complete next June, but at the same time the Nuclear Installations Inspectorate needs to be entirely restructured. The Nuclear National Policy Statement (NPS) timetable has already slipped by six months (see below). A revised draft is now due for consultation this autumn, to be ratified by March 2011.

EDF, which aims to build the UK's first two new stations in partnership with Centrica, insists that it will still put in its first planning application this winter – before the Nuclear NPS has been completed - but the Company has quietly gone from citing 2017 as the date for providing the first power from its station to 2018 – while insisting that nothing has held up plans. Small delays are not insignificant, according to Sam Laidlaw, chief executive of Centrica. *"The consequence would actually be potentially losing our place in the queue for a lot of the large forgings and the other bits of critical long lead-time items,"* he says. *"Then it doesn't become a month-by-month slippage, but it becomes potentially a much more significant slippage which has consequences for energy security and meeting our climate change objectives."* (9)

Then there is the problem, of sorting out the financial framework, and doing it in a way that doesn't look too much like a subsidy to the nuclear industry. Professor of Energy Policy at Oxford University, Dieter Helm, says *"this is the most important piece of the jigsaw ... We will be extremely lucky to get it sorted out by the end of 2011."* The Government has committed to a carbon floor price to help give extra stability to the volatile, and low-priced, EU Emissions Trading Scheme. But until details such as the level of the floor price are clarified, the efficacy of the scheme remains in question. Considerable work is also required on how decommissioning and waste costs will be apportioned. (10)

Investors are still worried, according to the Spectator. (11) You could almost hear the thumbscrews being tightened as Chris Huhne appeared on *Today*. He has a patchy history when it comes to supporting nuclear – and that fact, coupled with his less than evangelical rhetoric (12) on the matter in government, has got plenty of industry professionals worried.

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. Power stations may be cheap to operate, but are mind-bogglingly expensive to build. Both America and France have opted to underwrite their nuclear programmes to take away the risk from commercial utilities. Peter Atherton, a utilities analyst at Citigroup, believes the carbon floor price will not be enough incentive for new construction – a view shared by German utilities RWE and E.ON, who hope to build new stations at Wylfa and Oldbury. EDF was the main campaigner for a carbon floor price, and it will benefit by an estimated £350m a

year in windfall profits for its existing plants when the measure is introduced. But even EDF no longer believes a carbon floor price will be enough to kick-start nuclear building. Sources close to the company now say it is considered "just a first step". "The government should provide guarantees for debt," says Lakis Athanasiou, analyst at Evolution Securities. "The minimum carbon price is just a joke. Forget about it. No one is going to invest when they won't get paid back before 2020 or beyond." (13) Sam Laidlaw says the proposed floor price is unlikely to boost investment on its own. If that were the only incentive, it would have to be set at a pretty high level. Additional support will probably be needed. (14)

- (1) Energy Tribune 11th August 2010 <http://www.energytribune.com/articles.cfm/4934/Britains-New-Tory-Leadership-Why-Are-They-Forsaking-Reliable-Nuclear-Power-for-Intermittent-Wind-Energy>
- (2) BBC Today Programme 9th August 2010 http://news.bbc.co.uk/today/hi/today/newsid_8896000/8896666.stm
- (3) Telegraph 9th August 2010 <http://blogs.telegraph.co.uk/news/davidhughes/100050057/how-could-we-possibly-have-thought-chris-huhne-was-anti-nuclear/>
- (4) Chris Huhne MP 5th November 2007. <http://www.chrishuhne.org.uk/date/2007/11>
- (5) Daily Mail 10th August 2010 <http://www.dailymail.co.uk/news/article-1301560/Chris-Huhne-promises-8-new-nuclear-power-plants.html>
- (6) Independent 15th August 2010 <http://www.independent.co.uk/news/business/comment/mark-leftly-huhnes-stance-on-nuclear-policy-was-perfectly-clear-2052830.html>
- (7) News on News 13th August 2010 http://www.newsonnews.net/politics/4069-snp-libdems-dishonesty-over-nuclear.html?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+newsonnews+%28News+on+News%29
- (8) Independent 10th August 2010 <http://www.independent.co.uk/news/business/analysis-and-features/exercising-britains-nuclear-options-2048047.html>
- (9) Telegraph 14th August 2010 <http://www.telegraph.co.uk/finance/newsbysector/energy/7945867/Britain-is-struggling-to-power-the-nuclear-revolution.html>
- (10) Independent 10th August 2010 <http://www.independent.co.uk/news/business/analysis-and-features/exercising-britains-nuclear-options-2048047.html>
- (11) Spectator 9th August 2010 <http://www.spectator.co.uk/coffeehouse/6196913/huhne-backs-nuclear-energy-through-gritted-teeth.thtml>
- (12) Reuters 24th June 2010 <http://uk.reuters.com/article/idUKTRE65N3K720100624>
- (13) Telegraph 14th August 2010 <http://www.telegraph.co.uk/finance/newsbysector/energy/7945867/Britain-is-struggling-to-power-the-nuclear-revolution.html>
- (14) FT 29th July 2010 <http://www.ft.com/cms/s/0/2ab47814-9a9b-11df-87e6-00144feab49a.html>

2. Calls for Subsidies Grow

The real elephant in the room, says Rob Pitcher, head of nuclear at 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." (1)

A study by KPMG for RWE npower says new reactors will not be built if the Government persists with its promise to refuse them taxpayer support. The study says it is still uneconomic for utility companies to invest billions of pounds in new reactors. KPMG says the carbon "floor price" will not be enough. RWE wants nuclear to get the same level of support as renewables. (2)

KPMG says 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 carbon floor price, as planned by the government, may provide some benefits to investors but on its own will not be effective in achieving the level of investment required. The report suggested paying a premium tariff over and above electricity market revenues or setting a requirement for suppliers to source a certain amount of their energy from low carbon producers. (3)

There's something really rather strange about Chris Huhne's insistence that there will be no state subsidies for nuclear energy generation, says the Adam Smith Institute. The strangeness is that every other form of non-fossil fuel generation is getting massive subsidies, so why this prissiness over some to nuclear? The answer lies in how the other subsidies are calculated and paid, not in any principled objections or even any acknowledgment of economic rationality. Renewables are subsidised by consumers, not taxpayers. (4) This adds almost £300 a year to our electricity bills. It is much easier for a politician to continue this stealth tax on households than to raise a new tax to support nuclear generation. (5)

- (1) Eversheds Press Release 10th Aug 2010 <http://press.eversheds.com/content/detail.aspx?ReleaseID=1888&NewsAreaId=328>
- (2) Sunday Telegraph 18th July 2010 <http://www.telegraph.co.uk/finance/newsbysector/energy/7896510/KPMG-says-nuclear-power-wont-happen.html>
- (3) Platts 19th July 2010 <http://www.platts.com/RSSFeedDetailedNews.aspx?xmlpath=RSSFeed/HeadlineNews/Nuclear/8917891.xml>
KPMG Press Release 19th July 2010 <http://rd.kpmg.co.uk/mediareleases/22235.htm>
World Nuclear News 19th July 2010 http://www.world-nuclear-news.org/NP-Nuclear_investment_vital_to_meet_UK_emission_targets-1907104.html
- (4) Adam Smith Institute 25th July 2010 <http://www.adamsmith.org/blog/environment/chris-huhne%27s-%22no-state-subsidies-for-nuclear%22/?/>
- (5) FT 28th July 2010 <http://www.ft.com/cms/s/0/40bb49ec-99df-11df-a0a5-00144feab49a.html>

3. National Policy Statements – another consultation

The Government is to launch a re-consultation on the National Policy Statements (NPSs) for energy infrastructure in the autumn to ensure they are "fit for purpose". Under the previous government, the Department of Energy and Climate Change (DECC) launched the consultation on the NPSs in November 2009, as part of reforms to remove what it sees as "unnecessary planning delays" facing large energy proposals.

Energy Minister, Charles Hendry, said the government wants to strengthen the Statements by making sure large energy projects are not subjected to unnecessary hold-ups when proposals come forward. (1) The main reason given for the re-consultation is that changes have been made to the Appraisals of Sustainability (AoSs) for the NPSs, the AoS for the Overarching Energy NPS EN-1 in particular. 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. (2)

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.

Charles Hendry told Parliament a second consultation will be launched in the autumn to give investors the certainty they need. Mr Hendry said: "*We intend to present the finalised statements to Parliament for ratification next Spring. A detailed implementation plan for planning reform on major infrastructure - including transitional arrangements and a revised timetable - will be published later in the summer.*" (3)

The announcement plunged the nuclear industry into further uncertainty, according to *The Telegraph*. (4) The Nuclear Industry Association called on the Government to "maintain momentum" in order to

ensure construction remains on track. “Any further delay could undermine the confidence of potential investors and companies in the nuclear supply chain,” said chief executive Keith Parker.

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. (5) 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. (6) The IPC told Stop Hinkley that if the NPS remains in draft when the Hinkley application is determined, then the IPC will make a recommendation to the Secretary of State, who will make the decision. But if the NPS is designated whilst the application is being examined and before a decision is made, then an IPC Commissioner will make the decision. (7)

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.” (8)

- (1) New Energy Focus 15th July 2010
http://www.newenergyfocus.com/do/ecco/view_item?listid=1&listcatid=32&listitemid=4164§ion=Policy
- (2) Bircham, Dysoon and Bell 15th July 2010 <http://www.bdb-law.co.uk/blog/148-news-second-consultation-announced-energy-national-policy-statements>
- (3) DECC Press Release 15th July 2010
http://www.decc.gov.uk/en/content/cms/news/pn10_083/pn10_083.aspx
- (4) Telegraph 16th July 2010 <http://www.telegraph.co.uk/finance/newsbysector/energy/7893508/Nuclear-industry-jitters-over-government-re-consultation.html>
- (5) Department for Communities and Local Government Press Release 29th June 2010
<http://www.communities.gov.uk/newsstories/newsroom/1626268>
- (6) Local Government Lawyer 25th May 2010
http://localgovernmentlawyer.co.uk/index.php?option=com_content&view=article&id=2148%3Adetails-of-decentralisation-and-localism-bill-set-out-in-queens-speech&catid=59%3Agovernance-a-risk-articles&q=&Itemid=27 And Public Property 25th May 2010
<http://www.publicpropertyuk.com/2010/05/25/coalition-to-scrap-infrastructure-planning-commission/>
- (7) IPC website Register of Advice 15th July 2010 http://infrastructure.independent.gov.uk/?page_id=384
- (8) BANNG Press Release 19th Aug 2010 (No URL)

4. Huhne’s Annual Report

Chris Huhne delivered the first of what are to be annual energy statements to parliament in July, committing the government to overhauling the energy industry so as to provide affordable, secure, low-carbon energy. The statement sketched out the government’s intention to reduce energy demand from domestic premises, promote renewable technologies, support the carbon price, overhaul electricity pricing incentives and twist the arm of the private sector to stump up for new nuclear facilities. (1)

The government will incentivise micro-generation at both domestic and local community level and roll out smart meters. Fossil fuels still have a place in a low-carbon future, but only with carbon capture and storage. The Green Deal will transform finance for domestic energy efficiency and will get its legal underpinning from measures in the first session Energy Bill.

DECC has also published the 2050 Pathways Analysis, a document detailing six possible scenarios for meeting the three criteria of affordable and secure energy supplies with an 80% reduction in emissions by 2050.

But delivering an Annual Statement less than three months after taking office could prove that old maxim – “more hast less speed”, according to *The Independent*. The immediate reaction was anxiety that his lukewarm support for nuclear power – the flipside of his determination that renewables must play a larger part in Britain's energy sector – might damage the chances of investment in that sector. And now the renewables sector is voicing its concerns too, specifically about Mr Huhne's narrow focus on wind power. (2)

- (1) Business Green 27th July 2010 <http://www.businessgreen.com/business-green/news/2267137/huhne-lays-coalition-energy>
- (2) Independent 4th August 2010 <http://www.independent.co.uk/news/business/comment/david-prosser-the-ripple-effect-of-wellintended-energy-policies-2042434.html>

5. No Need for New Nuclear

A new group, called “No Need for Nuclear” (1) has been circulating a broadsheet (2) which asks people to write to their MP to ask them to sign Early Day Motion No. 557. (3) 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 makes the point that the Government has made no long term assessment of energy needs beyond 2022, yet has decided to build new nuclear power stations to satisfy that un-assessed need. It 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.

- (1) <http://www.noneedfornuclear.org.uk>
- (2) The broadsheet is available on Stop Hinkley's website. <http://www.stophinkley.org/NoNeed4Nuclear.pdf>
- (3) EDM 597 <http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=41514&SESSION=905>

6. Assessing Reactor Designs

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 for the EPR reactor meet requirements. (1) The areas of concern identified centre on design complexity and independence issues. Independence between routine reactor control systems and the systems that maintain safety in unusual conditions is needed because some of the safety systems protect against the failure of control systems. For that reason it should be impossible for them to fail together. The independence of systems in the EPR design has been brought into question by regulators before. In November 2009, British, French and Finnish regulators jointly urged Areva to revise the reactor's control systems because of a high degree of complex interconnectivity. (2)

The letter, from the NRC Director of the Division of New Reactor Licensing, refers to a June 25th meeting at which Areva proposed some design changes "*intended to reduce the level of complexity*" but said it would go forward with other parts of its original approach. NRC's staff concluded that part of the EPR's planned digital instrumentation and control system is not going to meet NRC requirements. (3)

Although NRC says it is working closely with Areva towards a resolution of the issues, the impact on the overall schedule for the design certification procedure isn't clear. Areva says it will submit design changes to the NRC by mid-March 2011 to resolve some of the regulator's concerns. At present, the certification isn't scheduled for final completion until mid-2012. (4)

Constellation Energy, which formed Unistar Nuclear Energy with EDF to build an EPR at Calvert Cliffs in Maryland, and had ambitions to build several others, has spent \$600 million on project planning, licensing requirements and preliminary site work, but has not yet received approval from the NRC. The CEO said "*We definitely can't keep spending without a near term commitment in the form of a loan guarantee.*" The Department of Energy has about \$10 billion left to spend on loan guarantees authority - enough for one new project -- after providing a conditional guarantee for a new reactor at Vogtle in Georgia early this year. DOE has delayed choosing between the Texas and Maryland projects in the hope that Congress would increase funding levels. But so far this hasn't happened. (5) The situation is so bleak that EDF took a 1 billion Euro provision for anticipated losses from its \$6.5 billion (5.05 billion euros) investment in Constellation Energy's existing reactors and in UniStar. (6)

Calvert Cliffs was meant to be the flagship US project to demonstrate an economic model for new reactor proposals. UniStar Nuclear would use 100% debt financing to build a new reactor. In other words, the companies would put up a small amount of money to file a license application to build a reactor and get the process rolling, and then get taxpayers—in both the U.S. and France—to put up all of the money to actually build the thing. When Constellation Energy first began toying with the idea of building a new reactor, back in 2004-2005, it thought the cost would be about \$2-\$2.5 billion. By 2006 it had gone up to \$4.5bn. By mid-2007 it increased again to \$7bn, and a year later it was \$7.2 to \$9.6bn. A more recent estimate for a similar plant by Pennsylvania Power and Light is \$13 - \$15bn. (7)

Even before a single slab of concrete foundation has been laid for a new reactor anywhere in the U.S., the much-hyped nuclear renaissance is collapsing under its own weight. In retrospect, the heyday of the nuclear revival was in October 2008, when the NRC announced it had received or was expecting license applications for 34 new nuclear reactors by now. Of those 34 reactor applications, seven were never submitted, two have already been formally withdrawn, no activity is occurring on five, and most of the rest have been substantially delayed. Only a handful of applications, comprising 14 reactors, are being actively pursued. And some of those, it appears, are close to the end as well.

Meanwhile, back in the UK, the Nuclear Installations Inspectorate said it is possible it will 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 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. Some of those issues could lead to the regulator issuing interim rather than final approvals of the designs next June. Areva and EDF said they were encouraged by NII's conclusion that it now believes an acceptable position can be reached regarding the regulator's concerns about the digital control and instrumentation system on the EPR. (8)

The Health and Safety Executive's (HSE) director of the assessment programme, Kevin Allars, said that companies could continue planning and carry out preparatory construction on proposed nuclear sites while they waited for a final decision, but insisted that construction of a reactor could not start without its consent. He 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.*" (9)

- (1) See “Reactor Problems”, NuClear News No.13
<http://www.no2nuclearpower.org.uk/nuclearnews/NuClearNewsNo13.pdf>
- (2) Worlds Nuclear News 26th July 2010 http://www.world-nuclear-news.org/RS-EPR_design_NRC_not_happy_yet-2607107.html
- (3) New York Times 30th July 2010 <http://www.nytimes.com/cwire/2010/07/30/30climatewire-a-late-scramble-to-fund-nuclear-renaissance-83656.html?pagewanted=2>
- (4) Platts 3rd August 2010
<http://www.platts.com/RSSFeedDetailedNews.aspx?xmlpath=RSSFeed/HeadlineNews/Nuclear/6252295.xml>
- (5) New York Times 30th July 2010 <http://www.nytimes.com/cwire/2010/07/30/30climatewire-a-late-scramble-to-fund-nuclear-renaissance-83656.html?pagewanted=2>
- (6) Nuclear Monitor 714, 20th August 2010.
- (7) Daily Kos 5th August 2010 <http://www.dailykos.com/story/2010/8/5/889695/-The-nuclear-renaissance-stalls-with-pending-collapse-of-Calvert-Cliffs>
- (8) Platts 25th August 2010
<http://www.platts.com/RSSFeedDetailedNews.aspx?xmlpath=RSSFeed/HeadlineNews/Nuclear/8909086.xml>
- (9) Guardian 26th August 2010 <http://www.guardian.co.uk/business/2010/aug/25/nuclear-reactors-behind-schedule> See also Telegraph 26th August 2010
<http://www.telegraph.co.uk/finance/newsbysector/energy/7964429/Safety-regulator-tells-nuclear-reactor-makers-to-redouble-efforts.html>

7. Steps to a dump or two

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. (1)

Any community expressing a willingness to host a Geological Disposal Facility (GDF) should know exactly what it is letting itself in for. So the first question such a community might be expected to ask would be “*how much waste will we be expected to host?*” The Government’s Managing Radioactive Waste Safely (MRWS) White Paper included 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 the near future such as spent nuclear fuel which has not been reprocessed; plutonium and uranium extracted during reprocessing; and uranium from the nuclear fuel manufacturing process.

The NDA has pointed out to the West Cumbria Managing Radioactive Waste Management Partnership that a 10GW new reactor programme would double the repository footprint (i.e. the area of land underground used to emplace waste) (2) 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. (3)

The NDA Disposability Assessment Report for waste arising from new EPR reactors suggests that more than half the total allowable risk for a GDF of 1 in a million per year would be taken up by a 10GW programme. (4) So if new reactor building goes beyond this size (around 6 EPRs) it is likely a second nuclear dump would be required.

The NDA says that compared with legacy waste and existing spent fuel, no new issues arise that challenge the fundamental disposability of the wastes and spent fuel from new reactors. (5) 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 – 90 years after the GDF is expected to be available. (6) So assuming new reactors start to come on stream around 2020, disposal could not start until 2120 in any case. But with an expected reactor life of 60 years, this means the GDF could be required to remain open until almost 2200.

The NDA says it expects to have a Generic Safety Case for Geological Disposal 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. (7)

Meanwhile a councillor from one of the two West Cumbria local authorities to have expressed an interest in hosting a dump is calling on colleagues to withdraw from the process. (8)

- (1) NDA 6th July 2010 <http://www.nda.gov.uk/stakeholders/newsletter/underground-disposal-plans-outlined.cfm>
- (2) NDA (July 2010) Geological Disposal: Inventory Presentation to the West Cumbria Managing Radioactive Waste Safely Partnership. Para 1.8 & slides 11, 12, 13 & 14.
- (3) Presentation made by Pete Roche to the West Cumbrian Partnership meeting 5th August 2010.
- (4) NDA (22nd Jan 2010) Generic Design Assessment: Disposability Assessment for wastes and spent fuel arising from operation of the UK EPR. Part 1 Main Report. para 5.4 page 97.
- (5) Geological Disposal: Steps Towards Implementation, NDA March 2010, page 11
<http://www.nda.gov.uk/documents/upload/Geological-Disposal-Steps-Towards-Implementation-March-2010.pdf>
- (6) DECC (March 2010) Consultation on a Methodology to Determine a Fixed Unit Price for Waste Disposal and Updated Cost Estimates for Nuclear Decommissioning, Waste Management and Waste Disposal. Paras 3.2.23 – 3.2.24
http://www.decc.gov.uk/assets/decc/Consultations/nuclearfixedunitprice/1_20100324145948_e_@@_ConsultationonFixedUnitPricemethodologyandupdatedcostestimates.pdf
- (7) Carlisle News and Star 8th July 2010 <http://www.newsandstar.co.uk/news/copeland-mp-warns-about-nuclear-industry-cuts-1.730918?referrerPath=/1.50001> and BBC 7th July 2010
<http://www.bbc.co.uk/news/10528937>
- (8) West Cumberland Times and Star 12th August 2010
<http://www.timesandstar.co.uk/news/politics/council-postpones-debate-on-west-cumbria-nuclear-waste-dump-1.745690?referrerPath=news/politics>

8. Baffling Environment Agency Consultation

With the Environment Agency's consultation on its assessment of the two new reactor designs well under way, the documents have been criticised for being 'baffling' but, at the same time, quite superficial. The consultation runs until 18th October 2010. (1)

As well as two consultation documents, each almost 200 pages long, there are 14 additional documents for each reactor type dealing with spent fuel and waste management as well as liquid and gaseous radioactive discharges. 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 on the protection of the marine environment of the North-east Atlantic 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.

Baffled councillors from Millom Town Council have called for a clearer, simpler, document so they can participate in the consultation over a potential nuclear power station site in West Cumbria. (2)

- (1) The Environment Agency Consultation Documents are available here: <https://consult.environment-agency.gov.uk/portal/ho/nuclear/gda?pointId=1277285023953>

- (2) North West Evening Mail 9th August 2010 http://www.nwemail.co.uk/news/council-confusion-over-nuclear-guide-1.744279?referrerPath=news/west_cumbria

9. Chernobyl radiation concern

Just after the Food Standards Agency declared that restrictions imposed on sheep in Scotland after the Chernobyl accident, 24 years ago, were to be withdrawn, (1) forest fires in contaminated areas of Russia and the Ukraine raised the possibility of radiation being remobilised again. Greenpeace said at least 20 fires – three of them in a highly contaminated forest area – had broken out in the Bryansk region of Russia, bordering northern Ukraine, in early August. Alexei Yablokov, a member of the Academy of Sciences, warned that winds could spread contaminants embedded in trees and plants as they succumbed to the inferno. (2) 330 farms remain restricted in North Wales, along with eight in Cumbria.

- (1) Independent 7th July 2010 <http://www.independent.co.uk/news/science/scottish-sheep-farms-finally-free-of-chernobyl-fallout-2020059.html>
(2) Guardian 11th August 2010 <http://www.guardian.co.uk/world/2010/aug/11/russia-wildfires-chernobyl-radiation>

10. Hinkley Pre-Application Consultation – and so it begins.

EDF Energy, under the name of its subsidiary the NNB Generation Company Ltd has started the formal pre-application process for the authorisation of the Hinkley Point C nuclear power station. The Hinkley Point C application is currently timetabled to be made in December 2010.

EDF Energy published its announcement of the start of its pre-application consultation to the general public on 9 July, and the consultation will close on 4 October 2010. The consultation website is at www.edfconsultation.info but to get to the plans and other documents relating to the application, you need to click on 'Hinkley Point' in the left hand column and then 'Public documents' across the top (1). Volume 3 of the Environmental Appraisal must be competing to get into the Guinness Book of Records as the largest ever PDF at 442MB.

The Infrastructure Planning Commission (IPC) is not expected to be abolished until April 2012, so it is possible that a decision on the application could still be made by the IPC. It is likely that the IPC will appoint three commissioners to examine the application, and it is also open to the IPC to appoint assessors.

In tandem with the public consultation, EDF has also issued a second 'Statement of Community Consultation' (SoCC) (2) which sets out how they propose to consult the community in the vicinity of the project. They are adopting a five-mile radius for the most focused consultation, with events also held in surrounding towns. The SoCC was first published on 29th June and the first public exhibition was on 10th July, so EDF have given a little more notice than the government did when it consulted on the NPS. There are two public exhibitions yet to take place, on 8th and 11th September in Bridgwater. The documents can also be viewed at EDF's Bridgwater office. (3)

Sedgemoor District Council and West Somerset Council organised community support meetings to help communities interpret and discuss EDF's revised proposals throughout July and August. (4)

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. A large hole will be excavated in preparation for foundations and the adjoining coastline, a protected area, may be cemented and terraced and a huge jetty built into the estuary, in preparation for the eventual building works. All this will involve the movement of a million cubic metres of soil and rock. EdF have signalled they wish to apply to West Somerset

District Council to undertake the premature destruction well in advance of their expected planning submission to the IPC in December. (5)

Stop Hinkley is organising a protest week-end on 11th and 12th September (6) and wants thousands of people to sign its petition. (7) Stop Hinkley has told Construction News it is exploring possible legal action to block the plans to build the new nuclear plant and is currently in talks with barristers. *“It is a bit like trying to stop a juggernaut,”* says Stop Hinkley coordinator Jim Duffy. *“It is all pretty technical stuff. We are talking to barristers at the moment about what we can do to stop it, but the average Joe doesn’t stand a chance really.”*

- (1) Or go straight here: <http://hinkleypoint.edfconsultation.info/public-documents/>
- (2) <http://hinkleypoint.edfconsultation.info/websitefiles/Stage-2-Consultation-Strategy-SOCC.pdf>
- (3) Bircham, Dyson & Bell 19th July 2010 <http://www.bdb-law.co.uk/blog/149-news-first-new-nuclear-power-station-pre-application-consultation-launched>
- (4) This is Somerset 22nd July 2010 <http://www.thisissomerset.co.uk/news/Helping-locals-understand-nuclear-plans/article-2442416-detail/article.html>
- (5) Bristol Indymedia 7th July 2010 <http://bristol.indymedia.org/article/692700>
- (6) http://www.stophinkley.org/Temporary/a5_hinkley_weekend_flyer.pdf
- (7) <http://www.stophinkley.org/PETITION.htm>

11. View on the Ground

Local Tory MP, Damian Collins, says Dungeness C would only take up 1% of the protected area around Dungeness, Rye and Romney March. *“In our difficult economic times when we are all being asked to make sacrifices, we might need to extend this to the vegetated shingle as well”*. (1) Chris Huhne’s interview on the Today Programme on 9th August when he said reactors would mainly be on existing sites *“where the local people are very keen that there should be new-build”* was taken in Kent as a sign that Dungeness could be back on the list of reactors sites. (2) But, despite Damian Collins’ best efforts a Government Spokesman told the Folkestone Herald that: *“the Government does not plan to reconsider Dungeness as a possible location for a nuclear station at this time”*. (3)

- (1) Hawkinge Gazette Online 8th July 2010 <http://www.localrags.co.uk/index.php/News/2010/7/8/Part-of-Dungeness-may-need-to-be-sacrificed-in-our-difficult-economic-times/>
- (2) Kent News 12th August 2010 <http://www.kentnews.co.uk/kent-news/Huhne-generates-hope-for-another-nuclear-station-newsinkent38694.aspx?news=local>
- (3) Folkestone Herald 19th August 2010

Morecambe Tory MP, David Morris, has been scare mongering in the Commons again, claiming Britain will face a total blackout in 10 years time if the government doesn’t back a massive expansion of nuclear power. Morris is actively campaigning for a third nuclear station at Heysham. (1)

- (1) Virtual Lancaster 4th August 2010 <http://virtual-lancaster.blogspot.com/2010/08/morecambe-mp-david-morris-warns-of.html>

The UK’s only remaining operating Magnox nuclear power stations, Oldbury and Wylfa, are looking at operating well beyond their current scheduled closure dates. Oldbury is currently scheduled to close down in June 2011, but site manager Joe Lamonby told a recent stakeholder group meeting that it is likely there will still be enough fuel to operate one of the plant’s two reactors beyond that. He told stakeholders that there would not be enough fuel to continue running both reactors - Magnox fuel is no longer being manufactured - but spare fuel from one reactor could be put into the other to keep it operating.

Wylfa is formally scheduled for closure in December 2010, but like Oldbury, could well operate to 2012 with the NII’s consent. The plant is currently in the process of applying for extended operation beyond 2010. Magnox North is hoping to be able to operate the plant for at least two more years. A decision from the NII is expected in the autumn. (1) Bosses at Wylfa are pushing for a decision in

October. Site manager Nick Gore is “very positive about an extension”, but if the answer is a no, they need to prepare a long train of action to start the de-fuelling and decommissioning process. (2)

- (1) N-former 12th August 2010 <http://www.nuclearcounterfeit.com/?p=3730> and World Nuclear News 12th Aug 2010 http://www.world-nuclear-news.org/RS-Magnox_plants_could_operate_to_2012-1208107.html
- (2) Holyhead and Anglesey Mail 18th Aug 2010 <http://www.theonlinemail.co.uk/bangor-and-anglesey-news/local-bangor-and-anglesey-news/2010/08/18/wylfa-bosses-want-decision-on-plant-s-immediate-future-66580-27078294/>

Horizon Nuclear Power has signed contracts with both Westinghouse and Areva for preparatory design studies for a proposed new power station at Wylfa. Horizon plans to select its preferred vendor around the end of the year.

- (1) Modern Power Systems 13th Aug 2010 <http://www.modernpowersystems.com/story.asp?sectionCode=131&storyCode=2057192>

12. Solar Revolution?

Is the nuclear industry desperately trying to stimulate a global renaissance as quickly as possible because it knows that in a few years time it will be obsolete? We reported in the very first issue of NuClear News in December 2008 that new reactors are likely to become obsolete before they open due to the falling cost of solar energy. (1)

Solar photovoltaic system costs are projected to continue falling over the next 10 years, while projected costs for construction of new nuclear plants are rising steadily. Now a group called the North Carolina Waste Awareness and Reduction Network reports that in the past year, the lines have crossed in North Carolina. Electricity from new solar installations is now cheaper than electricity from proposed new nuclear plants. (2) The report was written by John Blackburn, a former chairman of Duke University's economics department as well as the university's former chancellor. (3)

A similarly upbeat view comes from the Worldwatch Institute, whose annual survey of the global state of renewable energy affairs prompts them to state that renewables are at a tipping point. *"Buoyed by hundreds of new government energy policies, accelerating private investment, and myriad technology advances over the past five years, renewable energy is breaking into the mainstream of energy markets. Over the past two years, the United States and Europe have both added more power capacity from renewables than from coal, gas, and nuclear combined, according to the report. Worldwide, renewables accounted for one-third of the new generating capacity added."* (4)

The next generation of solar cells will be small, but with a huge impact. Some of these emerging electricity-generating cells could be embedded in windows without obscuring the view. Engineers envision incorporating slightly larger ones into resins that would be molded onto the tops of cars or maybe the roofs of buildings. One team of materials scientists is developing microcells that could be rubber-stamped by the millions onto a yard of fabric. When such cells shrink in size but not efficiency it becomes hard to imagine what they couldn't electrify. (5)

New transparent solar cell technology could be available within about five years, according to Professor Chris Binns of Leicester University. A transparent thin film could be coated onto window glass so that windows in buildings can also become power generators. The thin film can be literally painted on to surfaces. This could mark a major breakthrough in the emerging market for building-integrated solar technologies. Integrating solar cells directly into roofs, windows and walls would allow buildings to generate almost all the energy they need, even in temperate climates. Researchers are now hoping that the development of a spray-on solar cell will serve to slash the cost of solar

energy and make it easy for builders to deploy solar systems. (6) The Norwegian company EnSol AS has created the unique patented film which they hope to release commercially by 2016. (7)

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. (8) So, as the new group "No Need for Nuclear" points out, energy efficiency, microgeneration and local generation, as well as large scale renewables can provide sufficient electricity to keep the lights on, and can be installed now, not in 8 – 10 years' time as with nuclear. (9)

Perhaps the required local energy revolution is beginning to get off the ground, despite the recession. Since the launch of feed-in tariffs in April 20.7MW of microgeneration capacity has been installed – 6.4 MW of which has been in the commercial sector. (10) One company, HomeSun has launched a scheme to provide 100,000 homes with free solar panels, which it says will help bring solar power to grid parity. The company plans to install solar photovoltaic panels for free in some 2,000 properties over the next 12 months, allowing homeowners to generate their own electricity without the upfront cost. Funds which would have then been paid to the homeowner through the feed-in tariff scheme will go to HomeSun to cover the capital cost. (11) Although, according to the Guardian, a householder could earn up to £35,000 if they install the panels themselves, this could be just the sort of deal that will kick start a solar revolution. (12)

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. (13) The Telegraph reports that "*visitors are stalking Britain's rural communities in unsuitable footwear, offering farmers the deal of a lifetime ... help to cash in on the new gold rush - solar power*". (14)

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. (15)

Energy Minister, Greg Barker, writing in The Telegraph, says:-

"...the old dominance of the energy economy by a few large corporations is also being challenged. Our homes, businesses and communities can also become dynamic players in the new energy economy by producing their own green electricity and selling it back into the national grid. New feed-in tariffs – a system of financial incentives to encourage households and communities to produce their own electricity – are at the heart of our efforts to "green" Britain and empower consumers and to create a more local, decentralised energy system. With interest rates providing little return on financial investments, the domestic and community scale feed-in tariffs provide some of the best secure investment returns available in the market". (16)

A fine vision if it is properly implemented. 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. (17)

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)

- (1) See Science for Democratic Action, January 2008. Vol15 No.2 <http://www.ieer.org/sdfiles/15-2.pdf> & <http://www.no2nuclearpower.org.uk/nuclearnews/NuClearNewsNo1.pdf>
- (2) Solar and Nuclear Costs – the historic Crossover. NC WARN July 2010 http://www.ncwarn.org/wp-content/uploads/2010/07/NCW-SolarReport_print.pdf
- (3) News Observer 9th July 2010 <http://www.newsobserver.com/2010/07/09/571948/warn-solar-power-costs-less-than.html>
- (4) Tonic 31st July 2010 <http://www.tonic.com/article/a-first-cost-of-solar-power-now-cheaper-than-nuclear/>
- (5) Science News 31st July 2010
http://www.sciencenews.org/view/feature/id/61141/title/The_incredible_shrinking_solar_cell
- (6) Business Green 12th August 2010 <http://www.businessgreen.com/business-green/news/2268047/spray-solar-cell-give-windows>
- (7) Telegraph 10th August 2010
<http://www.telegraph.co.uk/earth/energy/renewableenergy/7935081/Whole-buildings-could-become-solar-panels.html>
- (8) Potential for Microgeneration: Study and Analysis, EST, eConnect, Element Energy, November 2005.
<http://www.berr.gov.uk/files/file27558.pdf>
- (9) See No Need for Nuclear broadsheet is available on Stop Hinkley’s website.
<http://www.stophinkley.org/NoNeed4Nuclear.pdf>
- (10) Business Green 10th August 2010 <http://www.businessgreen.com/business-green/news/2267889/businesses-play-key-role-feed>
- (11) Low Carbon Economy 9th August 2010
http://www.lowcarboneconomy.com/community_content/low_carbon_blog/10632/new_solar_panels_scheme_launched
- (12) Guardian 14th August 2010 <http://www.guardian.co.uk/money/2010/aug/14/free-solar-panels>
- (13) Independent 12th July 2010 <http://www.independent.co.uk/environment/green-living/ge-launches-solar-power-scheme-for-schools-2024502.html>
- (14) Telegraph 15th August 2010
<http://www.telegraph.co.uk/finance/newsbysector/energy/7945714/Renewable-energy-is-the-cash-crop-of-the-future-for-British-farmers.html>
- (15) Guardian 9th August 2010 <http://www.guardian.co.uk/environment/2010/aug/09/huhne-local-council-renewable-power>
- (16) Greg Barker 14th August 2010 <http://www.telegraph.co.uk/finance/newsbysector/energy/7945733/We-have-to-create-a-more-local-decentralised-energy-system.html>
- (17) Business Green 13th August 2010 <http://www.businessgreen.com/business-green/news/2268100/research-aims-pace-green-home>
- (18) Business Green 19th August 2010 <http://www.businessgreen.com/business-green/news/2268432/clegg-turns-volume-coalition>