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1. Is the Government about to break its promise not to subsidise new reactors?

The coalition agreement was clear – no public subsidies for new reactors. Yet the Government is now planning to force consumers to subsidise nuclear power, driving an extra million into fuel poverty, whilst failing to implement a comprehensive energy efficiency programme. And a limit on liability for the costs of nuclear accidents will ease the burden on nuclear operators. Paying for commercial insurance could add between €0.14/kWh and €2.36/kWh to the cost of a unit of electricity, making new reactors unviable. Offering new nuclear operators a fixed unit price for the cost of spent fuel management and disposal also represents a subsidy of around £427 million per reactor. (1)

Just as we go to press Greenpeace has published an opinion poll which shows the majority of voters oppose taxpayer subsidies for nuclear power. And among Liberal Democrat voters, the expectation that their MPs should live up to their manifesto promises is even greater, with just under two thirds of respondents (63%) saying they wanted Lib Dem MPs to either vote against or abstain. (2)

Labour MP Nic Dakin has put down an amendment to the Finance Bill which would stop EDF Energy getting a windfall for existing reactors from the carbon floor price. This will be discussed in Committee on 9th June.

- (1) Nuclear Subsidies or how to impoverish the nation. No2nuclearpower briefing May 2011
http://www.no2nuclearpower.org.uk/reports/Nuclear_power_subsidies.pdf
- (2) Voters to Lib Dems – Live up to your nuclear promise, Greenpeace 6th June 2011
<http://www.greenpeace.org.uk/blog/nuclear/voters-tell-lib-dems-live-your-promise->

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See also “Bonkers Bonus for EDF”, Greenpeace Press Release 11th May 2011

<http://www.greenpeace.org.uk/media/press-releases/bonkers-bonus-edf-20110511>

2. Nuclear Subsidies – a brief outline

The Secretary of State for Energy, Chris Huhne MP, was clear - new reactors should only proceed without public subsidy. (1) But now the Government is planning to “*rig the carbon trading market*” and increase electricity bills, subsidising nuclear power by the back door. (2)

More conventional taxpayer subsidies are also planned. (3) In May 2010 Chris Huhne said even support in the event of a nuclear disaster was out of the question. (4) Yet the Government is proposing to place a cap on the liability of nuclear companies in the event of an accident of £1 billion. This compares with the latest estimates of clean-up cost after the Fukushima disaster of up to \$250bn (5).

Setting a Fixed Unit Price for waste disposal from new nuclear reactors with a cap on charges to nuclear operators transfers to the taxpayer the risk of cost overruns. (6)

Former Government Advisor, Tom Burke, says it is “...*clear that neutering the planning system, capping the cost of radioactive waste management, continuing to accept the bulk of the nuclear industry’s third-party liabilities and putting in a floor price for carbon [is not going to be] enough.*” So the much needed reform of the electricity market will be used to disguise nuclear subsidies. (7)

Consumer Subsidies

The House of Commons Energy and Climate Change (ECC) Committee report on Electricity Market Reform concluded that the Government is planning to distort the market to save political face having promised not to subsidise new reactors, now that it is clear reactors won’t go ahead without some form of subsidy. (8)

The only company pleased with all the government’s proposed reforms is EDF – the owner of most of Britain’s existing nuclear stations – because it will be in line for a large windfall. (9) Treasury economic secretary Justine Greening said the carbon floor price could benefit the existing nuclear sector by an average of £50m per annum to 2030. (10)

WWF’s evidence to the ECC committee argued that because of the importance of rapidly decarbonising the power sector by 2030 in the most environmentally sustainable, cost-efficient and economically beneficial way possible, the other subsidy proposed under the Electricity Market Reforms – the system of feed in tariffs - should primarily apply to renewable technologies. If nuclear power were to benefit it would represent a subsidy and would therefore break the government’s own pledge not to subsidise new nuclear. (11)

Impact on Consumers

It is widely agreed that energy prices will increase over the next 20 years whichever energy path we follow, (12) which makes it all the more important that whatever reforms are implemented pay due regard to the needs of the 4.5 million households living in fuel poverty. Ofgem has predicted that, in the worst-case scenario, household energy bills could double to £2,000 a year within a decade (13) adding another million households to those in fuel poverty. (14)

The “Green Deal” is supposed to be key to improving household energy efficiency and tackling fuel poverty. (15) But it is still unclear whether the Green Deal will deliver the promised savings to low income households. (16) Research by E3G suggests householders are likely to reject the scheme

because of its high cost. (17) A survey by the Federation of Master Builders (FMB) found builders expect the response to the Green Deal to be “*underwhelming*”. (18)

Professor of Energy Policy at Exeter University, Catherine Mitchell, says what’s needed is a new type of energy system with regulated obligations on the scale of the transition from town gas to natural gas. Tendering for street-by-street or area-by-area contracts to make homes energy efficient would be much more cost effective. (19)

Energy Efficiency & Demand Management

The Government’s Revised Draft Overarching National Policy Statement on Energy foresees a need for a doubling or even tripling of total installed electricity capacity by 2050. (20) Yet Germany, which is planning an entirely non-nuclear route, even with the same 2050 objective of an 80% reduction in greenhouse gases, expects electricity demand to be 25% below present levels by implementing an energy efficiency programme. (21) The UK’s 26 million households are responsible for around 27% of greenhouse gas emissions. The obvious question is why are we not planning to refurbish existing households at around 700,000 houses per year in order to make the required contribution to the UK’s greenhouse gas emissions target?

Taxpayer Subsidies

Nuclear Liability

The Government is proposing to cap nuclear operators’ liabilities in the event of a nuclear accident at £1bn rather than the current £140m. (22) The cap was introduced because no company can obtain insurance against a nuclear accident – or would want to shoulder the risk themselves – because the costs could potentially be limitless. But agreeing to cover any costs above £1bn clearly amounts to a public subsidy. (23) This compares with the latest estimates for the cost of the clean-up after the Fukushima disaster of up to \$250bn (24) One study estimates that insurance premiums for nuclear power could add between €0.14/kWh and €2.36/kWh to the cost of a unit of nuclear electricity. (25)

Subsidies for Nuclear Waste Management

The Energy Act 2008 requires operators of new nuclear reactors to have in place plans to carry out and fully fund decommissioning, managing and disposal of the radioactive waste they will produce. (26) As part of these arrangements nuclear operators will need to set aside funds to pay for waste ‘disposal’. The Government consulted recently on an updated Waste Transfer Pricing (WTP) methodology to propose a way of calculating how to share costs for a Geological Disposal Facility (GDF) between new reactor operators’ waste and so-called “legacy waste”. Because of uncertainties, not least because there is not even a site yet for a GDF, the Government is proposing to wait 30 years before fixing a price. Instead it will charge operators an expected price plus a small risk premium. The Final Price will be subject to a cap which will not be exceeded no matter what happens! (27)

Given that the operational ‘life’ of most reactors to date has been approximately 30 years, the deferral period is too long, and risks leaving too little time to make up costs if there is a deficit or if reactors close earlier than anticipated. There is a risk of the taxpayer having to find the additional money if the industry is allowed too much time before it has to commit to a final price.

Nuclear consultant Ian Jackson has looked at the costs of spent fuel disposal, the prices energy companies will be charged by government and what public subsidies may need to be paid in the future. He concludes that the total subsidy needed could be as much as £427m per 1.35GW PWR reactor. (28) The only way to guarantee utilities pay the full costs of disposal is to charge them the actual cost. Estimating realistic disposal prices 100 years into the future is fraught with difficulty. (29)

Conclusions

The Government appears to be planning to force consumers to subsidise nuclear power through its electricity market reforms, driving an extra million households into fuel poverty, and place a cap on the liability of nuclear operators for the costs of nuclear accidents. Paying for commercial insurance could add around half a euro to the cost of a unit of electricity, so a cap on liability represents a subsidy. Offering new nuclear operators a fixed unit price for the cost of spent fuel management and disposal represents a subsidy of around £427 million per reactor.

Recommendations

1. **The carbon floor price should not be used to benefit existing nuclear reactors.**
2. **The Feed-in-Tariffs with Contracts for Difference should be technology-specific and reflect both the environmental performance and the maturity of the technology. Nuclear should not benefit from price support.**
3. **The EMR package must give greater attention to the task of improving energy efficiency. Without such measures many more households will be pushed into fuel poverty over the coming decades.**
4. **Proposals to limit nuclear operators' liability to £1bn should be rejected.**
5. **Proposals to offer nuclear operators' an estimated fixed unit price for nuclear waste disposal with a deferral for 30 years and a cap on the final price should also be rejected.**

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3. The Weightman (interim) Report

The Nuclear Free Local Authorities (NFLA) has highlighted (1) a disturbing incongruence between the conclusions of the interim Weightman report (2) on the implications of the Fukushima disaster, and its recommendations. The conclusions largely gave the UK industry a clean bill of health – but the recommendations raise some important issues which are extensive, potentially very expensive and need to be implemented quickly. It is also disturbing that the regulator is putting the onus on the industry to say how it will implement the recommendations.

The Weightman review outlines 11 interim conclusions and 25 interim recommendations. The conclusions of the report largely suggest the UK nuclear industry has already got its house in order, while suggesting that the issues raised by the Fukushima incident are unlikely to be replicated in the UK. Yet the recommendations suggest that the nuclear industry needs to make a series of detailed reviews across many aspects of emergency response, with a real worry over flooding risk (hidden

away in the appendices), and various other health and safety issues in a detailed plant and site review for each nuclear facility.

The report notes that there is: “*potential for flooding to occur in the near vicinity of nuclear sites*”, but goes on to say that the actual flooding risk is unknown “*because the detailed specific likelihood and consequences of flooding have not been assessed*” by the regulators. (3) It is, therefore, difficult to see how Weightman can justify concluding that: “*Flooding risks are unlikely to prevent construction of new nuclear power stations at potential development sites in the UK over the next few years*”?

The NFLA expressed concern that Mike Weightman is largely leaving the nuclear industry to decide what to do with its recommendations rather than making sure they are fully and consistently enforced with a full and detailed audit trail. *Utility Week* says nuclear operators will be expected to demonstrate they have learnt lessons from Japan on a lengthy checklist of issues. Companies have been given a month to respond to the 25 recommendations set out in the report. (4)

The NFLA also points out a number of areas of concern that the report has simply not looked at, due to its very narrow remit such as the size of emergency planning zones around UK reactors (about 3km) compared with the 30km evacuation area in Japan; major logistical issues for the emergency services and local authorities when dealing with the mass evacuation of tens of thousands of people there should be an analysis of this from the Nuclear Emergency Planning Liaison Group, the Cabinet Office’s Civil Contingencies Secretariat, the Emergency Planning Society and senior emergency service personnel.

The Guardian described responses to Weightman’s report as “*an enormous row*”. It said critics immediately accused Mike Weightman of rushing to judgment and “*complacency*” in his interim report. Doug Parr, policy director at Greenpeace, said the regulator’s review of safety essentially concluded that the industry should go away and think about it. “*Many people will regard that as complacent, given the huge cost and misery inflicted by the Japanese accident, and this cannot inspire confidence in Britain’s nuclear regulators. Even as the struggle to control Fukushima reactors continues, it appears Huhne has rushed to judgement on the safety of reactors to keep the timetable for new nuclear power on track,*” he added. (5) Louise Hutchins, head of UK energy campaigns at Greenpeace, queried the wisdom of commissioning a report on the safety of Britain’s nuclear facilities when we don’t even know what happened in Japan yet. (6)

Rowena Mason, on her *Telegraph* blog asked the question on everyone’s mind: how can someone who has for many years been responsible for the safety of current reactors and designs of new ones be the right person to stand back and make an unbiased judgement on their reliability? (7)

Although the Weightman inquiry expressed a willingness to consider submissions from outside the Office for Nuclear Regulation, it is clear that any submissions received were not examined for the interim report. Submissions to the review were initially published online but have since been withdrawn. They highlight a series of previously unpublicised concerns from nuclear insiders. (8)

In one submission, Robert Quayle, who says that he was for 15 years a member of the emergency response team at the Sellafield nuclear complex in Cumbria, warns of the dangers of terrorists causing a power blackout. They could do this, he says, by disabling back-up power systems and downing pylons without breaching the site security fence. That would mean that emergency diesel generators would have to be brought in from Manchester or Newcastle to keep vital safety systems going, which could take hours. Others warn of the dangers that floods or other severe events could trigger power failures. Power lines at nuclear sites could be damaged by a major flood.

A submission from Babcock, which runs the nuclear submarine base at Faslane on the Firth of Clyde and many other military sites, highlights the risks of extending the lifetimes of Britain’s older reactors – Magnox and AGRs – saying they have not been designed to modern seismic safety standards and

planned emergency responses to events may not have considered a sequence of severe events, as happened at Fukushima. One NDA manager expresses concern about the dangers of explosions from the build-up of hydrogen in light water reactors (LWRs).

Former ICI Project Manager, John Busby, made a submission about the implications of Fukushima for the Areva EPR, and the Toshiba-Westinghouse AP1000. (9) The Fukushima incident showed that venting before the residual core heat has been reduced causes hydrogen to be produced and it is likely to be above its auto-ignition temperature and explode. To avoid a hydrogen explosion it is necessary in an emergency to follow a normal shutdown procedure as near as possible to avoid the formation of flash steam. This means that in the event of simultaneously losing an external power supply an adequate standby power system is instantaneously required. This cannot be guaranteed. For the EPR he concludes that the design philosophy, rather than preventing a core melt, could cause it. It also appears that the AP1000's passive core cooling system (PCCS) offers no real solution.

In the U.S. a more probable threat to nuclear reactors than earthquakes and tsunamis has been identified – recurring fires. Fires regularly occur at the 104 U.S. nuclear plants nearly 10 times a year on average. About half the accidents that threaten reactor cores begin with fires that can start from a short circuit in an electric cable, a spark that ignites the oil in a pump, or an explosion in a transformer. Even a small fire could trigger a chain of events that threatens a meltdown, and some have come close. Just a year ago, a South Carolina nuclear plant suffered two fires in a single day — ironically on the 31st anniversary of the nation's worst nuclear accident at Three Mile Island. The seven-hour crisis escaped much national notice even though it left half the plant without adequate power or a reliable supply of cooling water for its reactors, a situation worsened by workers' unfamiliarity with the proper safety response. Nuclear industry insiders say the near miss was more serious than has been widely acknowledged. (10)

Even when safety flaws are identified, the US Nuclear Regulatory Commission allows operators to voluntarily come up with their own solutions (sound familiar?). And some reactors operate for years on temporary fixes. When blazes recur at the same plant, penalties tend to be minimal. Another problem identified is that at some two dozen US reactors, spent fuel sits in unsecured, above-ground storage pools — a radiological threat underscored by recent events at Fukushima.

The Times now says new reactors are unlikely to cost significantly more or experience extended construction delays as a result of the lessons learnt from the Japan (11), even though last month the newspaper seemed to think there could be a delay of up to two years. (12) Because the reactor design assessment will not be published until towards the end of the year so that it can fully take into account Weightman's final report and any implications it may have on the design assessment, there may be a six-month delay in the UK's new-build programme. EDF Energy's promise to build the UK's first new reactor in decades by 2018 at Hinkley Point, could still be theoretically possible.

A general overview and analysis of the Fukushima nuclear accident and the Weightman interim report is available on the Nuclear Free Local Authorities website:

[http://www.nuclearpolicy.info/docs/briefings/A197_\(NB83\)_Fukushima_and_Weightman_review.pdf](http://www.nuclearpolicy.info/docs/briefings/A197_(NB83)_Fukushima_and_Weightman_review.pdf)

Almost a third of Britain's nuclear inspectors are eligible to retire within three years, leaving a potential "knowledge gap" within the Office for Nuclear Regulation. Of the 217 inspectors, 30% are over the age of 57, 11% are over 60. The regulator says new recruits are needed soon. (13)

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4. Hillier struggles to be coherent

Meg Hillier, Labour's new shadow Secretary of State for Energy and Climate Change put the cat amongst the pigeons when she said to Chris Huhne: "*although the Secretary of State keeps denying the subsidy issue, to hide his embarrassment*" and asked him to "*acknowledge the need for market support to ensure that we have safe new nuclear in this country as soon as possible?*" (1) This forced Ed Miliband's office to confirm that Labour is still opposed to nuclear subsidies (apart from the ones he was going to introduce anyway which aren't called subsidies). In fact the Labour Party will be opposing the nuclear windfall which EDF is in line for if the carbon floor price proposals remain un-amended in the Finance Bill. An amendment put down by Nic Dakin MP was to have been discussed in Committee on 7th June, but the Committee ran out of time, so it will now be discussed on 9th June.

Meg Hillier went on the obligatory visit to Sellafield at the end of May and expressed her confidence in the site's future. She supported the idea of building new reactors adjacent to Sellafield; expressed the hope that there would be a new weapons-useable plutonium fuel manufacturing plant, and said with Japan being Sellafield's biggest overseas customer, she doesn't think the Fukushima catastrophe will affect the site's future: "*I think there's enough on the order book to keep Sellafield's reprocessing going for quite some time.*"

12 Labour MPs signed up to an Early Day Motion put down by Paul Flynn MP last year which opposes public subsidies for nuclear power. The EDM is still open for signature. (3)

- (1) Hansard 18th May 2011 Column 345 <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110518/debtext/110518-0001.htm#11051871000005>
- (2) Whitehaven News 2nd June 2011 <http://www.whitehavennews.co.uk/news/shadow-minister-s-vote-of-confidence-in-sellafield-1.843380?referrerPath=home>
- (3) EDM 150 <http://www.parliament.uk/edm/2010-11/150>

5. National Policy Statements

According to the Romney Marsh Herald, the final National Policy Statements on Energy are not now expected until July

Romney Marsh Herald 27th May 2011 <http://www.thisiskent.co.uk/Lobbying-MP-told-patient-nuclear-review/story-12130347-detail/story.html>

6. Large on Fukushima

Greenpeace Germany has published a report by John Large which unmask the policy of disinformation implemented by TEPCO in the wake of the Fukushima disaster. He says the Japanese knew within a few hours of the earthquake that the cores had melted. Misleading descriptions by TEPCO were uncritically repeated by Nuclear Safety Agencies around the globe. “No-one would lie without a reason“, says Shaun Burnie, a Greenpeace nuclear expert. “They want the people to believe that atomic energy is controllable even after the catastrophic disaster at Fukushima. But this is a dangerous illusion.” (1)

Greenpeace also attacked Japan's "continued inadequate response" to the nuclear disaster at a power plant after new data from the results of Greenpeace sampling showed seaweed radiation levels 50 times higher than official limits. (2) The results also showed that the contamination is spreading over a wide area, and accumulating in sea life, rather than simply dispersing like the Japanese authorities originally claimed would happen. (3) Ken Buesseler, a chemical oceanographer at the Woods Hole Oceanographic Institution, said that new research of waters up to 19 miles (30 km) offshore from Fukushima show radioisotope levels that are 10 times higher than radioisotopes measured in the Baltic and Black Seas during Chernobyl. He said, “When it comes to the oceans, the impact of Fukushima exceeds Chernobyl.” (4)

John Large has also done a critical review of the findings of the IAEA’s expert mission to Japan for Greenpeace France. Large concludes that the preliminary summary is disappointing, overly cautious and not at all informative. The IAEA Mission Team fail to shed any further light whatsoever on the events and circumstances that culminated in the catastrophic failure and radiation release from three operational nuclear power plants, and for the explosion and radioactive release from the spent fuel pond of a fourth but defueled nuclear reactor. It provides no explanation or reason for the substantial and confusing delays that occurred in the aftermath management of the incident – for example, why the INES Level 7 declaration was delayed for one month when it was so obvious from the onset that this was a very serious radiological incident indeed; why TEPCO, with the knowledge of Nuclear Safety Agency, delayed the release of data showing a complete fuel melt and breach of the Reactor Pressure Vessel containment for two months; why the SPEEDI monitoring results were not published in full from the onset; on the confusion and delays over the radiation dose limitation system applied in the off-site public domain; and so on and so forth. Holding back and/or the incomplete publication of this information and data could have particular relevance to the effectiveness of the countermeasures being applied over the off-site areas involving tens if not hundreds of thousands of members of public. Large says the Japanese nuclear regulatory system failed, and permitted an ill-prepared NPP to operate in an unsafe way. (5)

- (1) Greenpeace Germany Press Release 26th May 2011
http://www.greenpeace.de/fileadmin/gpd/user_upload/themen/atomkraft/pe_110526_pk_Large_Report_final_englisch.pdf
 Fukushima Interim Status Report - Summary. Greenpeace Germany 26th May 2011
http://www.greenpeace.de/fileadmin/gpd/user_upload/themen/atomkraft/Summary_Large_Report_03.pdf
 Update on the Nuclear and Radiological Situation. Greenpeace Germany 26th May 2011
http://www.greenpeace.de/fileadmin/gpd/user_upload/themen/atomkraft/update_Large_052011_EN_02.pdf
 See also: Incident, Developing Situation, and possible eventual outcome at the Fukushima Daiichi Nuclear Power Plants. Greenpeace Germany 26th May 2011
http://www.greenpeace.de/fileadmin/gpd/user_upload/themen/atomkraft/Large_Report_R3196-A1_10_April_2011-3.pdf
- (2) Common Dreams 27th May 2011 <http://www.commondreams.org/headline/2011/05/27-2>
- (3) Greenpeace International 26th May 2011
<http://www.greenpeace.org/international/en/news/Blogs/nuclear-reaction/marine-life-soaking-up-radiation-along-fukush/blog/34979>

- (4) Is Fukushima now ten Chernobyls into the sea? Harvey Wasserman, OpEd News 26th May 2011
<http://www.opednews.com/articles/Is-Fukushima-now-ten-Chern-by-Harvey-Wasserman-110526-905.html>
- (5) Review of preliminary summary of the IAEA expert mission to Japan, Large Associates, 1st June 2011.
<http://www.largeassociates.com/3201%20IAEA%20Mission%20Statement/R3201-A1%20Final.pdf>

7. COMARE's 14th Report

The Government's Committee on Medical Aspects of Radiation and the Environment's (COMARE's) 14th Report (1) was widely reported as providing evidence that nuclear power plants have been cleared of causing childhood cancers. The Committee said we should now be looking for other reasons, perhaps infections or even viruses, to explain leukaemia clusters. There are two identified clusters near Dounreay and Sellafield, but both are reprocessing plants, not power plants. (COMARE's next report will review the latest evidence for childhood leukemias at the two plants). The latest report did not look at cancer clusters near the Calder Hall power station, because of its proximity to the Sellafield reprocessing plant. (2)

The main aim of the 14th COMARE Report was to undertake a further review of the incidence of childhood leukaemia near most UK nuclear power plants. In 2008, a previous study commissioned by the Department of Health had found a 36% increase in acute childhood leukaemias between 1969 and 2004 within 5 km of 13 of the 14 UK nuclear power stations. The observed increase was considered not to be statistically significant as there was a >5% probability that it could have arisen by chance.

In November 2009, the Department of Health requested COMARE to extend the 2008 study to include more recent data in order to increase the statistical strength of its findings. However, the new study didn't do this: it uses the same 1969 to 2004 time period as the 2008 study – their excuse being that it would take too long.

Dr Ian Fairlie, an independent consultant on radioactivity in the environment, branded COMARE's findings "*poor science*". Speaking during a visit to Oldbury, Fairlie said: "*The report has in a sense cherry-picked data.*" Sellafield was excluded but data that was irrelevant was included. (3)

In a critique by Dr Fairlie (4) he points out that the new report finds a 22% increase in childhood acute leukaemia and non-Hodgkins lymphoma (NHL) and chronic myeloproliferic disease and unspecified leukaemia. By adding new disease categories the net result is to reduce the apparent increase in leukaemias/lymphomas near NPPs from 36% in the 2008 study to 22%. COMARE rejects the 22% increase by incorrectly implying that, as its findings did not meet a significance test, the findings were negative. COMARE's Report is regrettable as it may mislead members of the public into thinking there are no increases in leukaemias when in fact this may not be the case.

"*You won't hear the UK government admit it*" argues Dr Paul Dorfman of the Nuclear Consultation Group, "*but after decades of research there is now evidence of real excesses of childhood cancer and leukaemia near some nuclear facilities.*" He said let's be clear about this, the German Childhood Cancer Registry has found that there is a significantly increased risk for children under five years of age to contract leukaemia the nearer they live to a nuclear power plant. (5)

Meanwhile Corrina Thomson writing in the *Caithness Courier* reminds us that COMARE's second report on the incidence of leukaemia in young people living near Dounreay is often widely misrepresented as having found there was "no leukaemia cluster around Dounreay" and that "if there were a leukaemia cluster in Caithness, it wasn't anything to do with Dounreay". Neither of these statements is true. COMARE says: "*We found evidence of an increased incidence of leukaemia in young people in the area and although the conventional dose and risk estimates suggested that radioactive discharges could not be responsible, we noted that the raised incidence of leukaemia at*

both Sellafield and Dounreay tended to support the hypothesis that some feature of these two plants led to an increased risk of leukaemia in young people living in the surrounding area.” (6)

- (1) COMARE’s 14th Report http://www.comare.org.uk/press_releases/documents/COMARE14report.pdf
- (2) Guardian 6th May 2011 <http://www.guardian.co.uk/environment/2011/may/06/nuclear-power-leukaemia>
BBC 6th May 2011
http://www.bbc.co.uk/blogs/thereporters/ferguswalsh/2011/05/childhood_leukaemia_not_linked_to_nuclear_plants.html
- (3) This is Somerset 11th May 2011 <http://www.thisissomerset.co.uk/Expert-rubbishes-nuclear-safety-report/story-11318923-detail/story.html>
- (4) Comments on COMARE’s 14th Report, Dr Ian Fairlie, 13th May 2011
http://www.no2nuclearpower.org.uk/articles/comments_on_14th_comare_7%5b1%5d.pdf
Or [http://www.nuclearpolicy.info/docs/briefings/A196_\(NB82\)_COMARE_report.pdf](http://www.nuclearpolicy.info/docs/briefings/A196_(NB82)_COMARE_report.pdf)
See also NFLA Press Release 16th May 2011
http://www.nuclearpolicy.info/docs/news/NFLA_PR_COMARE14_critique.pdf
- (5) Ecologist 16th May 2011
http://www.theecologist.org/blogs_and_comments/commentators/other_comments/889929/why_uk_nuclear_power_plants_may_cause_childhood_cancer_and_leukaemia.html
- (6) John O’Groat Journal 1st June 2011 <http://www.johnogroat-journal.co.uk/Features/The-Free-Press/No-leukaemia-cluster-thats-just-not-true-01062011.htm>

8. Climate Change Committee

The U.K. should build more nuclear reactors than planned and slow down investment in offshore wind power to meet targets for carbon emissions and renewable power, according to the Committee on Climate Change - the government’s climate advisory panel. (1) Two more reactors than currently planned, an extra 3.2 gigawatts, will be needed by 2030, it said.

The Committee on Climate Change said renewables had a significant role to play in cutting carbon from the UK economy, and could provide 30% of electricity, heating and transport energy by 2030 - double the target set for 2020. But nuclear power will remain the most cost-effective way of providing low-carbon electricity well into the 2020s. (2)

The U.K. currently aims to build 13 gigawatts of offshore wind farms by 2020, according to its renewable energy action plan submitted last year to the EU. That should be slowed, with some of the construction moved to the 2020s because the technology is expensive and would get stronger backing if its growth was ensured through 2030, Kennedy said. “*We don’t envisage shaving off more than 3 gigawatts*” by 2020, he said. “*There’s a very aggressive schedule, and then there’s nothing in the 2020s. A smoother profile going out to 2030 would make a lot of sense. We need to avoid stop-start investment cycles.*” (3)

RenewableUK (formerly the British Wind Energy Association) warned against reducing the 2020 target for offshore wind. The report recommends that “*if a set of alternative options can be found to meet the EU renewable energy target, then offshore wind ambition in 2020 could be moderated.*”

RenewableUK maintains that offshore wind is the technology most likely to deliver in the time frame and on the scale required, while providing a high degree of cost certainty.

Maria McCaffery, RenewableUK’s Chief Executive, said: “*An unambitious target could scare off investors just when they have pledged so much commitment in establishing UK factories. This in turn could stymie delivery of targets and prevent the creation of up to 50,000 jobs in offshore wind over the next decade. The current 2020 target for offshore wind is already below what the industry can deliver. Back-tracking on the target even further makes no sense: the UK’s world leading offshore sector needs confidence, not doubt and prevarication. We are looking forward to the Government’s*

response to this report in the delivery roadmap next month, which we anticipate to be much more ambitious”.

Vestas announced plans to build an offshore wind turbine factory in Kent employing up to 2,000 people in May. Siemens has announced a preferred location for a new factory in Hull. Gamesa, the Spanish wind turbine manufacturer, is negotiating possible port sites and putting R&D money into Dundee, and GE are expected to make an announcement soon. Mitsubishi are planning to invest £100million in R&D in Edinburgh. However, whilst promising, none of these initiatives has yet led to new manufacturing starting in the UK. For this to happen the government has to be clear about the long term direction for renewable energy. (4)

Not surprisingly the committee does say a key uncertainty is the ability to build nuclear to time and cost and full reliance on nuclear would be inappropriate, given uncertainties over costs, site availability, long-term fuel supply and waste disposal, and public acceptability.

Alan Simpson former Labour MP and now an independent advisor on energy and climate change, says central to the CCC's proposals is the belief that new nuclear will deliver electricity at around 5.5p per kilowatt, making it the cheapest, low-carbon electricity. Yet we all know about the spiralling costs of nuclear projects in France and Finland and about the hidden subsidies. Last year, North Carolina's energy market reached an historic cross-over point, with electricity from photovoltaics - solar energy - coming in at the same price as nuclear. The projections are that by the end of this decade photovoltaic (PV) costs will have fallen to around 15-20% of nuclear. Analysis shows that virtually all European countries can expect PV costs to reach break-even point within the current decade. Done at scale, they will also deliver the massive job growth already enjoyed in Germany. In Britain, the technical potential of PV alone is that over 30% of current electricity needs could be met by installing it on all south-facing roofs of homes, factories, schools and offices. Add to this the potential renewable resources of deep-geothermal, tidal stream, wind and wave and you have the potential for Britain to be a net exporter of renewable energy, not a modest contributor to it. (5)

Simpson says the CCC has no real perspective on the role of decentralised energy systems in defining a different energy future. And it has no recognition of the need to move from permanent subsidies to transitional ones. This approach was central to the Feed-in-Tariffs (FITs) framework he helped introduce in the Energy Act 2008, a modest attempt to follow Germany's more ambitious approach in how best to move from non-renewable to renewable energy systems. There is no cost-free path from yesterday to tomorrow. The key is to have a different set of principles that underpin whatever transformation you are asking the taxpayer to cough up for. These relatively simple principles are: Subsidies have to be transitional - time-limited and diminishing - so that technologies have to eventually pay their own way or die; taxpayer support should be limited to new technologies rather than established ones; each technology must cover its own clean-up costs, within its own operating lifetime.

Keith Allott, head of climate change at WWF, said: "*Unfortunately, the government and the Committee on Climate Change are basing their assumptions on highly optimistic and theoretical nuclear cost estimates. Given the industry's history of massive cost overruns – now being repeated with new reactors in France and Finland – the view that nuclear is more cost-effective than renewables is highly contentious. The recent disaster in Japan and associated safety reviews can only lead to a further hike in nuclear costs and greater public opposition to new reactors and the government needs to urgently switch its focus to the renewables solution.*" (6)

- (1) The Renewable Energy Review May 2011, Committee on Climate Change. http://hmccc.s3.amazonaws.com/Renewables%20Review/The%20renewable%20energy%20review_Printout.pdf
- (2) Scotsman 9th May 2011 <http://news.scotsman.com/politics/39Go-slow-on-offshore-wind.6764922.jp>

- (3) Bloomberg 9th May 2011 <http://www.bloomberg.com/news/2011-05-08/britain-should-rely-on-more-nuclear-power-less-offshore-wind-panel-says.html>
- (4) Greenpeace Press Release 11th May 2011 <http://www.greenpeace.org.uk/media/press-releases/greenpeace-reaction-vestas-offshore-wind-turbine-factory-plan-uk-20110511>
- (5) Morning Star 11th May 2011
<http://www.morningstaronline.co.uk/index.php/news/content/view/full/104541>
- (6) Guardian 9th May 2011 <http://www.guardian.co.uk/uk/2011/may/09/climate-defining-green-moment-cameron>

9. Sellafield MoX Plant

The future of the Sellafield MoX Plant hangs in the balance, according to *The Independent*, after the closure of the Hamaoka nuclear power station in Japan. The setback is the latest blow to Britain's faltering strategy for dealing with its growing mountain of plutonium. Chubu Electric Power has closed its Hamaoka plant temporarily while a tsunami wall is built. (1)

Hamaoka, which has been described as the world's most dangerous nuclear power facility because it sits on two geological faults, was to be the first site in Japan for the delivery of mixed oxide (Mox) nuclear fuel made at the troubled Sellafield Mox Plant. The impact of the temporary closure of Hamaoka on orders for MoX fuel from Sellafield is still unclear.

Since it was given its operating licence in 2011 by the previous government, the Sellafield Mox Plant has been beset by problems. Instead of producing 120 tonnes of fuel a year, it has managed just over 13 tonnes in eight years, at a total cost to the taxpayer of £1.34bn – and a further £800m in future running costs expected this decade. A spokesman for the Nuclear Decommissioning Authority said that the contract to manufacture Mox fuel rods at Sellafield for Chubu was signed last year and that the preparations for manufacturing fuel rods are "ongoing". These preparations involve an extensive refurbishment of the troubled plant. "*We will be discussing with Chubu at the earliest opportunity what impacts, if any, will result from this latest announcement,*" he said.

The Government has just completed a public consultation exercise on what to do with the UK's enormous civil plutonium stockpile but it has already indicated that its preferred option is to build a second Mox plant at Sellafield to use up the waste plutonium as nuclear fuel. Cumbria County Council has also been pressing the Government to use the plutonium to generate electricity because it sees this as the cheapest option. (2)

Now, the Fukushima disaster has cast further doubts over the international trade in Mox fuel. One shipment to Japan from France has already been abandoned and some commentators believe future shipments may end altogether because of growing hostility in Japan towards nuclear power.

Cumbrian's Opposed to a Radioactive Environment (CORE) point out that Chubu Electric decided last December (three months before the Fukushima disaster) to postpone Hamaoka's MOX fuel programme until the station's 'seismic activity' safety case had been fully overhauled. Last year's rescue package, described by the NDA as a lifeline for the moribund SMP, is now at the mercy of the knock-on effects of the Japanese earthquake and tsunami disaster, the ongoing catastrophe at Fukushima, and the increasing official and public hostility in Japan to the use of mixed oxide fuel (MOX) on safety and security grounds. Under the rescue package, the production of MOX fuel for Hamaoka's Unit 4 was to be a 'trial run' for the resuscitated SMP if and when it re-opens in around two years time. The success or failure of the trial, would dictate whether or not other Japanese utilities could be enticed to place orders.

CORE says the re-assessment of Hamaoka's seismic safety is expected to take at least three years and will include not only the reactors' ability to withstand Magnitude 8 earthquakes but also the longer-term measure of constructing a coastal levee capable of standing up to a 12 metre tsunami wave – a

measure unlikely to appease local communities who have dubbed the plant ‘the most dangerous atomic facility in the quake-prone archipelago’. (3) Residents have filed a lawsuit seeking a permanent shutdown of Hamaoka. (4)

Meanwhile Cumbrian MP, Jamie Reed, launched a furious attack on *The Independent*. He accused reporters of engaging in “hyperbole and speculation” to pursue an anti-nuclear agenda. (5)

The NDA stressed it has contracts with all the Japanese utilities through what is called a contractual framework agreement. Chubu Electric (owner of the Hamaoka site) is just the first customer for whom we are manufacturing fuel. Ten Japanese utilities have placed contracts which have been hailed as a saviour for SMP, helping secure around 1,000 Sellafield jobs and the site’s longer term commercial future. (6)

- (1) Independent 9th May 2011 <http://www.independent.co.uk/environment/closure-of-japanese-plant-casts-doubt-on-viability-of-sellafields-mox-operation-2281141.html>
- (2) Letter from Tim Knowles to The Independent 9th May 2011
<http://www.independent.co.uk/opinion/letters/letters-the-av-referendum-result-2281127.html>
- (3) CORE Press Release 9th May 2011
<http://www.corecumbria.co.uk/newsapp/newsmain.asp?StrNewsID=288>
- (4) Reuters 27th May 2011 <http://uk.news.yahoo.com/suit-seeks-permanent-shutdown-japans-hamaoka-nuclear-plant-101516397.html>
- (5) Carlisle News & Star 10th May 2011 <http://www.newsandstar.co.uk/news/mp-national-papers-trying-to-derail-cumbria-s-nuclear-hopes-1.835921?referrerPath=/1.50001>
- (6) Whitehaven News 12th May 2011 <http://www.whitehavennews.co.uk/news/bosses-dispel-japan-crisis-fears-1.836626?referrerPath=news>

10. European Stress Test

‘Stress testing’ of the European Union’s 143 nuclear power reactors will not specifically include terrorism after that idea was rejected by national safety regulators. (1) The tests will focus on the aspects of nuclear plant safety highlighted by the Fukushima accident: earthquakes and flooding, as well as loss of safety functions and severe accident management following any initiating event. The tests will be applied to the 143 nuclear reactors in the European Union’s 27 member states, as well as those in any neighbouring states that decide to take part. Results are to be peer reviewed and shared between regulators, which retain sovereign authority on nuclear safety.

Representing the independent regulators of the EU, the European Nuclear Safety Regulators Group (ENSREG) said security issues like terrorism prevention and response were outside its mandate. It nevertheless noted the stress test analyses would be relevant for the eventuality of aircraft crash. The push to include deliberate criminal attack came from European Energy Commissioner Günther Oettinger, but faced vehement opposition from France and the UK on national security grounds.

The tests, which follow two months of wrangling, will address resilience to common threats such as forest fires, transport accidents and the loss of electrical power supplies as well as resilience to earthquakes and tsunamis. While the stress tests will have no legal teeth, they will be reviewed by other national regulators and the details will be made public. That means any plant that fails will come under unprecedented pressure. This could put particular pressure on plants without containment structures for reactors or fuel pools, or those that face seismic threats. This could point to increased pressure to close down the UK’s remaining two Magnox reactors. (2) Georgi Kastchiev, former head of Bulgarian Nuclear Safety Authority until 2001, has written to the European Commissioner calling for Magnox reactors to be closed down. (3)

Initial reports from Ireland were that Sellafield was to be excluded from the stress tests despite indications given to the Irish Minister for the Environment Phil Hogan by Chris Huhne that it would be included. (4) A British government spokeswoman in Brussels explained that the test was just “for

existing generation sites”. The following day the UK Government said Sellafield would be subjected to a stress test after all. Although the tests on reactors are being organised at an EU-level, the examination of the Sellafield plant would be carried at a “domestic level” in Britain by Dr Mike Weightman, chief inspector of Britain’s Office of Nuclear Regulation. (5)

- (1) World Nuclear News 25th May 2011 http://www.world-nuclear-news.org/RS_Terrorism_thrown_out_of_nuclear_stress_tests_2501112.html
- (2) Guardian 25th May 2011 <http://www.guardian.co.uk/environment/2011/may/25/eu-stress-test-nuclear-safety>
- (3) See Shepperdine Against Nuclear Energy 9th May 2011 <http://shepperdineagainstnuclearenergy.blogspot.com/2011/05/top-bulgarian-nuclear-scientists-wants.html>
- (4) Irish Times 26th May 2011 <http://www.irishtimes.com/newspaper/frontpage/2011/0526/1224297788118.html>
- (5) Irish Times 27th May 2011 <http://www.irishtimes.com/newspaper/ireland/2011/0527/1224297854163.html>

11. Oldbury & Wylfa

Plans by E.ON and RWE to build new nuclear reactors in Britain are in limbo because of the backlash against nuclear power in Germany. Bankers and industry sources say that the cash-strapped RWE would struggle to fund its share of the multibillion-pound programme. Horizon, the British new-build joint venture set up by the two German companies, had been due to award the contract to build its first reactors at Wylfa on Anglesey early this year.

Work is still under way to assess competing bids from two consortiums, fronted by the reactor groups Areva and Westinghouse, to build them. But a decision is now not expected this year. One source close to RWE said that the contract would not be awarded in the next “*three to six months, at the earliest*” - building new reactors overseas while the industry was under a cloud in Germany would be seen domestically as “*politically provocative*”.

RWE is furious about the Government’s carbon tax, which has made its task of convincing the board in Germany to back new- build plans more difficult. Putting a floor under the price of carbon to support nuclear power also penalises coal plants, which RWE relies on to generate much of its electricity. It will also result in a windfall for its competitor EDF Energy, which owns British Energy, the nuclear generator.

Times 25th May 2011

<http://www.thetimes.co.uk/tto/business/industries/utilities/article3038210.ece?lightbox=false>

12. Sellafield site unsuitable for new reactors?

Greenpeace unveiled 118 pages of minutes and other documents, mostly obtained under the Freedom of Information Act, which undermines the case for new reactors at Sellafield. It hopes the findings might force a rethink of the NuGen consortium’s plan to start building in 2015. There are problems with the site’s geology, which would add significantly to reactor construction costs, and difficulties in accessing the National Grid. Plutonium contamination in mud banks off Sellafield could also pose difficulties in extracting sea water to cool reactors. The documents also shed light on the behind-the-scenes campaign to promote Sellafield as suitable for new build against improbable odds. (1)

Greenpeace says the documents reveal that the three Councils which have made an ‘expression of interest’ in West Cumbria hosting a national nuclear dump secretly view hosting the dump as a ‘trump card’ in getting new reactors at Sellafield. (2)

- (1) Times and Star 21st May 2011 <http://www.timesandstar.co.uk/greenpeace-lifts-lid-on-push-for-nuclear-power-at-any-cost-1.839484?referrerPath=home/2.1681>
Carlisle News and Star 18th May 2011 <http://www.newsandstar.co.uk/news/sellafield-unsuitable-for-nuclear-power-station-greenpeace-1.838216?referrerPath=/1.50001>
- (2) Greenpeace Briefing 16th May 2011 <http://www.greenpeace.org.uk/document/west-cumbria-nuclear-dump-foi-docs-brief>
Copy of Council Minutes released 16th May 2011 <http://www.greenpeace.org.uk/document/building-case-nuclear-new-build-sellafield>
Copy of Amec Slides released 16th May 2011 <http://www.greenpeace.org.uk/document/amec-stages-3-and-4-energy-coast-deal>

13. Cumbria unsuitable for nuclear waste repository

In February 2011 the Committee on Radioactive Waste Management (CoRWM) wrote to the West Cumbria Managing Radioactive Waste Safely Partnership to assert that "*there is presently no credible scientific case to support the contention that all of West Cumbria is geologically unsuitable*", as claimed by Prof David Smythe. David Smythe has now refuted this assertion with a detailed 35-page review of the geology and hydrogeology of Cumbria. (1)

Meanwhile the Nuclear Decommissioning Authority says an average of 550 jobs generating £3 billion worth of wages over 140 years will come to any area which hosts a deep nuclear waste repository. The highest employment rate during the £12 billion project would come during construction and the early operations stage, when workforce numbers will rise to more than 1,000 staff. (2)

- (1) David Smythe 12th April 2011
<http://davidsmythe.org/nuclear/Unsuitability%20of%20Cumbria%2012April2011%20plus%20figs.pdf>
- (2) Whitehaven News 26th May 2011 <http://www.whitehavennews.co.uk/news/waste-repository-benefits-revealed-1.841197?referrerPath=news>

14. Dungeness Airport

"Fukushima in the making" - that is how anti-airport campaigners have branded the air crash risk to Dungeness power station. (1) Lydd Airport Action Group (LAAG) opened its case at the public inquiry into Lydd Airport's plans for a runway extension and new terminal with evidence from John Large, which outlined the vulnerability of the Dungeness to an aircraft crash and claimed the risk of serious radiological release remains on site well beyond the decommissioning phase. (2)

- (1) Kent Online 18th May 2011 http://www.kentonline.co.uk/kentonline/news/2011-1/may/19/airport_expansion.aspx
- (2) Rye and Battle Observer 27th May 2011 http://www.ryeandbattleobserver.co.uk/news/local-news/a_future_fukushima_warns_nuclear_expert_1_2723321

15. AP1000s

The US Nuclear Regulatory Commission (NRC) has found more problems with the AP1000 design – particularly the crucial shield building. The NRC chairman, Gregory B. Jaczko, said that computations submitted by Westinghouse about the building's design appeared to be wrong and "had led to more questions." He said the company had not used a range of possible temperatures for calculating potential seismic stresses on the shield building in the event of an earthquake, for example.

The Southern Company has already dug the foundations and done other preliminary work for two of the AP1000 reactors adjacent to its existing reactors at Plant Vogtle near Augusta, Ga. The Energy Department has promised loan guarantees for that project provided that the Nuclear Regulatory Commission approves the design. South Carolina Electric and Gas has broken ground for another two,

20 miles northwest of Columbia. The commission had previously said it expected to approve the AP1000 design this summer, but will now be delayed. (1)

- (1) New York Times 20th May 2011 http://www.nytimes.com/2011/05/21/business/energy-environment/21nuke.html?_r=3

16. Decommissioning Costs

The Treasury is refusing to hand over £6.8 billion from the sale of British Energy in the Nuclear Liabilities Fund because it says the fund is classified as a public sector body which allows it to hoard the cash in the public sector account. Leaving the money there helps to reduce the deficit, but brings in a return of only about 0.5%. Such meagre returns are giving rise to worries that future generations may be forced to pick up the tab for some of British Energy's huge decommissioning bill.

The Nuclear Liabilities Fund's chairman, Lady Balfour, believes the money should be invested in long-term higher return investments to match liabilities that will stretch beyond 100 years. The fund's total assets are £8.5 billion, just over double its current estimated decommissioning liabilities. But decommissioning costs have been above inflation for several years, and huge uncertainty remains over how much the work will cost in the decades ahead.

Times 23rd May 2011 <http://www.thetimes.co.uk/tto/business/industries/utilities/article3028506.ece>

17. Magnox Dissolution

The idea of dissolving Magnox Fuel Element Debris (FED) in acid, causing new discharges of radioactivity into the sea, seems to be back in vogue with plans to build a new plant at Sizewell A (1) and Hinkley Point A (2) and the possibility of waste transfers from Trawsfynydd to Dungeness. The SCRAM Safe Energy Journal covered plans for the construction of the Dungeness Magnox Dissolution Plant in 1988 and subsequently reported in 1989 when Michael Howard MP drank the effluent from the newly opened plant. (3)

Plans being developed to deal with Magnox Fuel Element Debris – the outer fins from Magnox fuel casings - at Hinkley Point A will see an increase in radioactive discharges into the sea. The process of dissolving materials in acid would give off gas and produce a radioactive liquid leaving a sludge which would be stored on site. The effluent would be treated by existing site water treatment plant before being discharged into the sea. (4)

- (1) Sizewell A Fuel Element Debris Best Practicable Environment Option Study
<http://www.magnoxsouthsites.com/UserFiles/File/publications/decommissioning/Sizewell%20FED%20report.pdf>
- (2) This is Somerset 24th May 2011 <http://www.thisissomerset.co.uk/Nuclear-waste-sent-sea/story-12112645-detail/story.html>
- (1) See Dissolution No Solution, SCRAM 65, May/June 1988
<http://www.no2nuclearpower.org.uk/articles/MagnoxDissolution020.pdf>
- (2) BBC 23rd May 2011 <http://www.bbc.co.uk/news/uk-england-somerset-13501260>