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- 1. Nuclear subsidies: the words mean just what the Government chooses them to mean.**

Damian Carrington's Guardian Environment Blog: "On the UK's commitment to 'no public subsidy' for nuclear, if there is anyone outside Decc and EDF who thinks that is credible, I have yet to meet them. One expert said to me: 'I can only feel sorry for the people at Decc who have to put out this garbage, it can't be fun. I think we're near the end game now and I will be interested to see whether the government has the nerve to abandon nuclear completely or whether it will force through a couple of reactors to save face.'" (1)

The UK Government has finally published its Draft Energy Bill which includes proposals for so-called Electricity Market Reform (EMR) as promised in the Queen's Speech on 9th May. Energy Minister, Ed Davey insists the proposals will provide a market structure to help keep the lights on, but without any subsidy for new nuclear reactors. (2) Almost everyone else agrees this Bill is about exactly that - setting up a complicated series of support mechanisms behind the veil of market reform – in order to subsidise nuclear.

Labour's Energy and Climate Change spokesperson, Caroline Flint, said "*the irony of the Government's electricity market reforms is that one thing they do not do is reform the electricity market. There is no change to the way in which energy is bought and sold, nothing to open the books of the energy giants and nothing even to improve competition in the energy market and break the stranglehold of the big six: no change, no hope and, I am afraid, not a clue how to help families*

affected by those pressures on the cost of living ... Last winter, more than 6.6 million families and pensioners across the UK could not afford to heat their homes properly. The number of pensioners dying from hypothermia has doubled in the past five years.” (3)

The Telegraph describes the proposals as “*the biggest shake-up of the industry since privatisation*”, intended to secure £110bn of investment in power generation. (4) The Bill is supposed to keep expected increases in energy bills down, reduce carbon emissions and secure electricity supplies. But Bridget Woodman, of the energy policy group at the University of Exeter, said: “*Rarely can an energy measure have attracted such universal condemnation. The key players – renewable generators, most energy companies, consumer groups and commentators – all recognise that [it] won't deliver a sustainable energy future ... The government is in a hole and needs to stop digging before it's too late to put the UK on a path to a sustainable energy future.*” (5)

Keith MacLean, head of policy at one of the UK's Big Six utilities, Scottish and Southern Energy, says it's a complex system “*designed to mask what is effectively a subsidy for new nuclear power, which could derail investment in renewables*”. Another of the Big Six RWE, which together with EON recently pulled out of plans to build new reactors at Oldbury in Gloucestershire and Wylfa on Anglesey, says the Energy Bill could add billions of pounds in unnecessary costs for the industry. (6)

Energy Secretary Ed Davey was pressed on BBC Radio 4 on whether the changes amounted to a subsidy for new nuclear. But rather than admitting, as almost every commentator says, that new reactors are too expensive to build without some form of subsidy he continued to cling to the illusion that “*There is going to be no public subsidy for new nuclear*”. (7) (The predicted cost of building two new EPR reactors at Hinkley Point in Somerset has increased from £9 billion to £14 billion). (8)

Davey says the idea of the “Contract for Difference” or Feed-in Tariff proposed in the Energy Bill is that by giving investors more certainty, the cost of borrowing will come down. “*What we want is a market structure that makes sure we keep the lights on.*” The interviewer, John Humphries, was having none of it. He said the Coalition Agreement and the European Commission prohibit subsidies to new reactors and so you are trying to get around that by calling it something else, and offering long-term contracts to would-be nuclear-builders.

Davey calls the proposals in the Energy Bill the most affordable way to get low carbon energy in a secure way. Yet many in the industry have poured scorn on the idea that the proposed reforms offer the cheapest route to securing investment. (9)

Davey is trying to make his reforms sound like a simple tweaking of the free market - despite the fact that they will virtually dispense with the free market and replace it with fixed long-term contracts. He says “*there will be no blank cheque for nuclear. Unless nuclear can be price competitive - as the industry says it can be - these nuclear projects won't proceed*”. (8)

In actual fact the Draft Energy Bill doesn't tell us much more than we already knew. It looks to be largely in line with the expectations established in last year's electricity market reform (EMR) proposals. There is confirmation of the four-pronged regime based around contracts for difference (CfDs), a new capacity mechanism to support back-up power plants, a carbon floor price to provide stability for investors, and an emissions performance standard to ban coal-fired power plants. But we didn't get any of the answers needed to calculate the viability of future renewable energy schemes, particularly offshore wind farms, or nuclear reactors. We will have to wait for the crucial numbers that will determine which “low carbon” projects proceed. The simple fact is that new investment in nuclear and offshore wind will not really begin to flow until the government confirms the “strike price” at which CfDs will be offered for different technologies. If the market price for electricity falls below this guaranteed “strike price” the nuclear or renewable energy operator would be paid the difference. (9)

But all the signs are that Davey is being disingenuous, and that the Government is determined to make sure new reactors are built whatever the cost. His Liberal Democrat Party, which is a junior member of the Coalition Government is still, in theory, opposed to new reactor construction, and only agreed to allow the Government to pursue a pro-nuclear policy on the basis that there would be no public subsidies. Only a couple of weeks ago the Party's Deputy Leader, Simon Hughes MP, told the House of Commons that the policy of not subsidising new reactors meant "*it will not happen because it has always needed to be subsidised*". (10) That all rather depends on the Government telling the truth about whether or not it is subsidising new reactors.

And not everyone in the Department of Energy and Climate Change seems to agree with Davey's idea that new reactors will only be built if they are cheap enough. A spokesperson told *The Guardian* that "*New nuclear is where the future lies for long-term energy security. This is why it is so important we begin the transition on market reform today.*"

Davey has confirmed talks have begun between his Department, EDF Energy and Centrica- the companies planning to make a final investment decision before the end of 2012 on whether to build two EPR reactors at Hinkley Point C. The talks will provide with EDF and Centrica with some firmer guarantees in order to make sure plans for Hinkley Point C go ahead. (11) With RWE and EON having recently dropped their UK nuclear plans, EDF has the Government over a barrel, and will no doubt be telling the Energy Department what strike price they want before they agree to go-ahead – in effect writing their own subsidy cheque from the electricity consumer. The strike price rates will not be finalised until 2013 - and not available to generators until 2014 – but under the terms of the draft Energy Bill, the government can issue a likely strike price in advance of formalising the rate and introducing CfD in 2014.

Confirming this nuclear enthusiasm, Conservative Junior Energy Minister Charles Hendry says the Government has done everything possible to ensure that EDF and Centrica go ahead and build another two EPRs at Sizewell in Suffolk. "*We have worked closely with EDF and we are confident the outcome will be positive.*" (12)

The Green Party's only UK MP sums up the view of environmentalists in Britain when she says: "*the Electricity Market Reform proposals expose a clear bias towards nuclear and gas. We know that subsidising new nuclear would fly in face of the Coalition's promise not to use taxpayer's money for nuclear, yet no matter how much Ministers deny it, EMR will gift EDF and other potential nuclear operators with billions of pounds in subsidies over the lifetime of a power station.*"

Rather like Humpty Dumpty when it comes to nuclear subsidies the word means just what the Government chooses it to mean — neither more nor less. As Friends of the Earth point out: the Energy Bill is a desperate attempt to prop up the dying nuclear industry and a way of letting in dirty gas by the back door, even though soaring gas prices have led to rocketing bills. More gas and new nukes will only add to bill payers' pain.

For a longer briefing on Nuclear Subsidies See Spinwatch 9th May 2012
<http://www.spinwatch.org/images/stories/NuclearSubsidies.pdf>

- (1) Guardian 1st June 2012 <http://www.guardian.co.uk/environment/damian-carrington-blog/2012/jun/01/nuclear-energy-emr-uk?newsfeed=true>
- (2) DECC 2nd May 2012
http://www.decc.gov.uk/en/content/cms/news/wms_energybill/wms_energybill.aspx
- (3) Hansard 16th May 2012 Column 550
<http://www.publications.parliament.uk/pa/cm201213/cmhansrd/cm120516/debtext/120516-0001.htm>
- (4) Telegraph 21st May 2012 <http://www.telegraph.co.uk/finance/newsbysector/energy/9280967/Energy-reforms-will-increase-household-bills-minister-Charles-Hendry-admits.html>
- (5) Guardian 22nd May 2012 <http://www.guardian.co.uk/environment/2012/may/22/government-announces-energy-reforms?intcmp=122>

- (6) Telegraph 21st May 2012 <http://www.telegraph.co.uk/finance/newsbysector/energy/9280967/Energy-reforms-will-increase-household-bills-minister-Charles-Hendry-admits.html>
- (7) BBC Radio 4 Today Programme 22nd May 2012
http://news.bbc.co.uk/today/hi/today/newsid_9722000/9722693.stm
- (8) Sunday Times 20th May 2012
http://www.thesundaytimes.co.uk/sto/news/uk_news/Environment/article1042432.ece
- (9) Telegraph 21st May 2012 <http://www.telegraph.co.uk/finance/newsbysector/energy/9280967/Energy-reforms-will-increase-household-bills-minister-Charles-Hendry-admits.html>
- (10) Hansard 16th May 2012, Column 570
<http://www.publications.parliament.uk/pa/cm201213/cmhansrd/cm120516/debtext/120516-0002.htm>
- (11) Construction News 22nd May 2012 <http://www.cnplus.co.uk/news/government-starts-edf-talks-to-ensure-hinkley-point-c-investment/8630658.article>
- (12) East Anglian Daily Times 23rd May 2012
http://www.eadt.co.uk/news/sizewell_new_power_station_set_to_get_go_ahead_1_1385859

2. Confusing, complicated, and with a lack of detail – must do better.

If anyone had hoped the Energy Bill would provide some clarity on EMR, particularly the financial support mechanisms, they would have been sorely disappointed. The draft Bill was light on detail, with no concrete information on plans for a capacity market or the levels of financial support renewables and nuclear power can expect. It was according to one commentator, “*yet another promise that clarity and stability are just around the corner.*” (1) Most of the details will not actually emerge until 2014. And those that have been published are already worrying renewable developers. (2)

Alan Whitehead MP, a member of the Energy and Climate Change Committee, says the Energy Bill is not very likely to succeed in its objectives and much of the content is to facilitate new nuclear. (3) The draft bill consists of 109 clauses, 44 of which are concerned with the establishment of the Office of the Nuclear Regulator. Just thirty nine clauses deal with EMR. Of these six are about setting up what are called ‘Investment Instruments’ which are, not to put too fine a point on it, notes of comfort for nuclear generators ahead of the actual date on which Contracts for Difference can actually start. They certainly won’t be notes of comfort for anyone else, because they will all be able to obtain Renewables Obligation Certificates until 2017: so a whole section devoted to shoring up EDF ahead of whatever else comes out of the Bill. This means, of course that most of the business of making EMR work will be the subject of secondary legislation, most of which still seems to be under intensive discussion. (4)

Jim Skea, of the UK Energy Research Centre (UKERC), said: “*precisely how nuclear, renewables and CCS will be encouraged is still not clear, and will only become clear when secondary legislation is published. The draft Bill doesn’t bring either the waiting or the debating to an end.*” (5)

Peter Atherton, Citigroup's head of European utility sector research, said he was "surprised" the Government had published the draft Bill when it still appeared to be very uncertain as to how key proposals would work. "After two years, the Government seems no closer to being able to square its desire to support new nuclear with its political imperative not to be seen to be subsidising nuclear build," he wrote in a research note. (6) "If the publication of this Bill was meant to demonstrate progress and reinvigorate investors' appetite, we suspect it might have the opposite effect." He said the Government did not seem to have "much confidence in its own proposals" on how "contracts for difference" (CfD), intended to guarantee return on investments, would work. He doubted that generators would regard the proposed "synthetic counterparty arrangement" for CfD as equivalent to "a government-backed counterparty that was originally promised".

Mr Atherton told *The Telegraph* he had spoken to dozens of institutional investors "who are expected to fund the £110bn" and as yet "not a single fund manager" believed the draft Bill would make them more likely to do so. "In fact, many of them have suggested it makes them less likely," he said. Capital markets had already been "dubious" about energy policy, he said, and he believed the draft energy Bill had "possibly undermined [the Government's] credibility further," he said. (7)

- (1) Renewable Energy Focus 25th May 2012 <http://www.renewableenergyfocus.com/view/25990/uk-draft-energy-bill-what-does-it-mean-for-renewables/>
- (2) ENDS Report 23rd May 2012 <http://www.endsreport.com/33860?printFriendly=true>
- (3) Alan Whitehead MP 28th May 2012 <http://alansenergyblog.wordpress.com/2012/05/28/and-in-case-you-still-dont-know-what-i-think-about-the-energy-bill/>
- (4) Alan Whitehead MP 28th May 2012 <http://alansenergyblog.wordpress.com/2012/05/28/always-look-on-the-bright-side/>
- (5) UKERC Press Release 22nd May 2012 http://www.ukerc.ac.uk/support/tiki-read_article.php?articleId=1951
- (6) Citi Bank Comment on Draft Energy Bill 23rd May 2012 <https://ir.citi.com/aoTUAN5IGdnj/Ub1mv5%2BvuVeLtT1DN9ezEwG5DIF6q0%3D>
- (7) Telegraph 23rd May 2012 <http://www.telegraph.co.uk/finance/newsbysector/energy/9285876/Draft-energy-Bill-may-deter-investment-Citigroup-warns.html>

3. The Nuclear Strike Price

As we noted last month *The Times* reported that EDF has raised its estimated cost of building a nuclear reactor from £4.5 billion pounds last year to £7 billion pounds now. (1) EDF has yet to confirm these new figures, but Citi analyst Peter Atherton says "*If the latest cost figures are true, new nuclear power plants in the UK are not commercially viable*". Ministers will struggle to justify such inflated costs both politically and economically, he added. Factoring in the new £7 billion construction cost and a standard 15% return on investment, EDF would need a "strike price" of about £166 per megawatt hour (£/MWh) to make building new reactors viable. (2) This is not far off the estimate by David Toke, senior lecturer in Energy Policy at Birmingham University, of "over £150 MWh (15 p/KWh)". (3)

Current power prices are around £51/MWh, so such a high strike price would require a subsidy of £115/MWh. Transferring the risk of budget overruns onto the government's balance sheet would reduce the risk faced by the developer and so reduce the cost of capital, but no mechanism currently exists for allowing such a transfer, which would leave taxpayers facing an enormous risk over which they have little control. Transferring risk could bring down the "strike price" to £110/MWh, which could be sold to Parliament as "cheaper than offshore wind" with a possibility that future reactors may cost less.

The Citi figures assume nuclear power stations are built on time and to budget, which is something that has not so far been possible for the type of reactor EDF want to build in Britain. Ed Davey, Energy Secretary has repeatedly asserted that nuclear power is the cheapest way to decarbonise the British economy. (4) It has long been acknowledged that off-shore wind is expensive. Its electricity currently costs about £135/MWh, but costs are expected to fall over the next decade to perhaps as low as £100/MWh. (5)

David Toke told the Radio 4 Today Programme that he doesn't believe the Energy Bill will resurrect nuclear power. You would need extremely high rates of return to persuade investors to invest in new reactors. (6)

Former Tory Government Advisor Tom Burke says at a strike price of £166/MWh, EDF's four proposed new reactors will cost us £155 billion over 30 years. Greenwich University Professor of Energy Policy, Steve Thomas, has come up with a handy little formula for calculating what it will cost just for this instrument to get EDF to invest in Hinkley and Sizewell.

C (capacity in gigawatts) x 1000 (converts gigawatts to megawatts) x S (difference between wholesale price and strike price in CfD) x 8760 (hours in a year) x 0.8 (plant availability).

For Hinkley and Sizewell, the £166/MWh strike price calculated by Peter Atherton of Citi is compared to a current wholesale price of £51/MWh, and assuming the Contract for Difference is for 30 years and the plant runs for 80% of the time the formula then gives:

$6.4 \times 1000 \times 30 \times 115 \times 8760 \times 0.8 = \text{£}155 \text{ billion}$. (7) This means electricity bills will have to go up by £5.2 billion per year.

- (1) Times 7th May 2012 <http://www.thetimes.co.uk/tto/business/industries/utilities/article3406852.ece>
- (2) Reuters 8th May 2012 <http://www.reuters.com/article/2012/05/08/nuclear-britain-edf-idUSL5E8G8FQ620120508>
- (3) David Toke's Green Energy Blog 5th May 2012 <http://realfeed-intariffs.blogspot.co.uk/>
- (4) Tom Burke 23rd May 2012 <http://tomburke.co.uk/2012/05/23/nuclear-power-seems-to-have-acquired-the-power-to-destroy-logic/>
- (5) Offshore Wind: Forecasts of Future Costs and Benefits, Renewable UK, June 2011 http://www.bwea.com/pdf/publications/Offshore_report.pdf
- (6) Radio 4 22nd May 2012 http://news.bbc.co.uk/1/hi/2012/05/21/newsid_9722000/9722691.stm
- (7) Tom Burke 28th May 2012 <http://tomburke.co.uk/2012/05/28/hinkley-and-sizewell-will-cost-us-155-billion-over-30-years-under-the-cfd/>

4. Negotiating the Strike Price

Some experts have suggested that the strike price needed to make new reactors viable will simply be too high. Peter Atherton, head of European utility sector research at Citigroup Global Markets, calculates that the proposed 10 new plants would cost each household an extra £200 a year on average electricity bills. Since the average bill is around £400- £500 a year, this would be a huge increase. Talks have been under way for weeks between the Government and EDF on the level the strike price should be set at. Vincent de Rivaz, the chief executive of EDF Energy declined to comment on the negotiations. However, he did confirm that the nuclear power generated by the Hinkley Point plant would cost more than double — perhaps triple — the current wholesale price, “*although still less than the cost of offshore wind*”. (1)

Potential investors in new reactors will need to know what power price is going to be guaranteed to them and who will guarantee it before they invest. The strike price rates will not be finalised until 2013 - and not available to generators until 2014. But EDF and Centrica want to make a final investment decision on Hinkley at the end of this year, so they need to know what the strike price will be sooner. Under the terms of the draft Energy Bill, the government can issue a likely strike price in advance of formalising the rate and introducing CfDs in 2014. ‘Investment Instruments’ or letters of comfort for nuclear generators will be issued before Contracts for Difference can actually start. The letters are meant to tide the industry over until a full-blown subsidy regime starts in 2014 and allow the EDF Energy/Centrica consortium to start work on time.

But Centrica has told ministers that proposed “letters of comfort” would break rules on state aid. (2) It is warning it cannot make a final investment decision at the end of this year unless an appropriate subsidy mechanism is in place. Centrica is concerned that the temporary arrangements have undergone inadequate scrutiny and are not enshrined in legislation. Centrica privately warned the government in April it could pull out of its joint venture to build nuclear reactors in the UK if the strike prices under the contracts for difference were not high enough, and therefore provided inadequate returns. (3) Facing shareholder questioning over its possible 20% stake in EDF's planned new nuclear at Hinkley Chief Executive Sam Laidlaw said: “*The investment case for nuclear has yet to be proven.*” (4)

Utilities also want to know who it is that is guaranteeing the strike price - the counterparty - before they invest. Executives from RWE and E.On told the House of Commons Energy and Climate Change Committee they would have preferred the government to act as counterparty as initially planned, rather than the National Grid Company, as now proposed. “*Moving away from a triple A rated*

guaranteed contract (i.e., with government as counterparty) is a big shift in the process in the last six to nine months,” said Volker Beckers, Group Chief Executive Officer, RWE npower. (5)

Minister of State for Energy Charles Hendry, told the same committee, that the government chose to use the National Grid because it was more likely to pass muster with the European Commission. However, he said, the government was still talking with industry and “*hadn’t closed the door*” on who ultimately would guarantee the long-term contracts for new nuclear and other low carbon energy projects. Hendry said the government was still in discussions with the EC to get approval of its proposed electricity market reforms. (6)

As mentioned above Ed Davey has confirmed talks have begun between his Department, EDF Energy and Centrica- the companies planning to make a final investment decision before the end of 2012 on whether to build two EPR reactors at Hinkley Point C – in order to provide the companies with some firmer guarantees in order to make sure plans for Hinkley Point C go ahead. (7) The impact assessment for what the government describes as “investment instruments”, published alongside the draft Energy Bill, states that preliminary discussions with developers have shown that some would need certainty on CfD before making an investment decision.

It states: “*Anything short of a binding arrangement ... is likely to be insufficient comfort to enable some developers to commit to a final investment decision ahead of full implementation of EMR. Any arrangement would be premised upon Parliament granting the necessary powers, and on securing any necessary State Aid clearances.*”

EDF Energy Chief Executive Vincent de Rivaz said a key issue was making sure the strike price was high enough to provide an adequate return for investors, but not so high that it would hurt energy users. “It’s an opportunity to reconcile investors’ requirements and consumers’ expectations,” he said. (8)

- (1) Sunday Times 20th May 2012 http://www.thesundaytimes.co.uk/sto/news/uk_news/Environment/article1042432.ece
- (2) Sunday Times 27th May 2012 http://www.thesundaytimes.co.uk/sto/business/energy_and_environment/article1047119.ece
- (3) FT 27th May 2012 <http://www.ft.com/cms/s/0/8b590e8e-a818-11e1-8fbb-00144feabdc0.html>
- (4) Telegraph 11th May 2012 <http://www.telegraph.co.uk/finance/newsbysector/energy/9261237/Centrica-shareholders-revolt-against-executive-pay.html>
- (5) i-Nuclear 15th May 2012 <http://www.i-nuclear.com/2012/05/15/utility-execs-concerned-that-uk-government-wont-guarantee-power-price-for-new-nuclear/>
- (6) Telegraph 15th May 2012 <http://www.telegraph.co.uk/finance/newsbysector/energy/9268237/New-UK-nuclear-plants-threatened-by-EU-state-aid-rules.html>
- (7) Construction News 22nd May 2012 <http://www.cnplus.co.uk/news/government-starts-edf-talks-to-ensure-hinkley-point-c-investment/8630658.article>
- (8) FT 16th May 2012 <http://www.ft.com/cms/s/1d603564-9e99-11e1-a24e-00144feabdc0.html>

5. Energy Bill: Not even sufficiently climate friendly

One of the most disconcerting things about the Bill is the government’s decision to omit a binding commitment to decarbonising the electricity supply by 2030, which the Climate Change Committee described as essential to ensure the UK meets its 2050 carbon targets. Instead, a statement from Ed Davey promised to decarbonise the UK’s electricity supply “in the 2030s”, essentially pushing it back by another decade and prompting fears that this is the start of an incremental slip in government commitment to carbon targets. “*Two decades out and we are already seeing signs of slippage on the government’s carbon ambitions,*” said Leo Hickman on the Guardian website. “*Is it any wonder that many people see such goals as hollow words spoken by politicians who live or die by short-term political cycles?*” (1)

Friends of the Earth Senior Energy Campaigner Paul Steedman said: "*After 18 months of dithering, this Bill doesn't even set out a clear purpose, when it should make a simple commitment to decarbonising our electricity supply by 2030. All the Bill contains is a desperate attempt to prop up the dying nuclear industry and a way of letting in dirty gas by the back door, even though soaring gas prices have led to rocketing bills. More gas and new nukes will only add to bill payers' pain.*" (2)

The Bill will give the government powers to introduce an emissions performance standard limiting how much CO₂ power plants can release. This will initially be set at 450 grams of CO₂ per kilowatt-hour of electricity produced; far below coal plant emissions but not enough to limit development of gas. This has raised concerns about a renewed dash-for-gas. (3) The Bill also says that coal plants fitted with CCS will be exempt from complying with the limit to ease their chances of being built, and gives government the power "*to make exceptions to maintain energy security*".

Compare the 450g/kWh to the 50g which the Committee on Climate Change says should be the average produced by power stations in this country by the end of the 2020s, if the government is to meet its 2050 target. Modern gas power stations produce less than 400g/kWh, so the new limit won't touch them. Worse, the level will be fixed – by primary legislation – until 2045 for power stations built today. If the government believed that widespread carbon capture and storage (CCS) was a realistic prospect, it would ratchet down the emissions from gas plants, forcing them to use the technology. But CCS of this kind has not yet been proven at scale, and is now beset with major problems.

The new Capacity Mechanism in the Bill will also favour the construction of new gas plant. New coal plants produce about 800g/kWh, so they appear to be excluded by the 450g limit. But any new coal plant that "forms part of" the capture and storage programme will be exempted from the emissions standard. To qualify under the bill, a coal plant would need only to plan on fitting, one day not very soon, some CCS capacity, the quantity of which is not specified. (4) Joss Garman, a senior campaigner for Greenpeace, said ending the era of dirty coal had been a flagship pledge from both parties in the coalition. "*But now the Lib Dem Energy Secretary, Ed Davey, seems to have slipped the coal industry a whopping loophole that could mean some of the most polluting power stations known could be built in the UK and exempted from pollution controls*". (5)

One such power station could be the coal-fired power station proposed for Hunterston in North Ayrshire wrecking Scotland's targets to cut emissions. The loophole exempts coal stations that adopt government-approved technologies to trap carbon emissions from tough new limits on pollution. But the technologies - known as carbon capture and storage (CCS) - may only cover a proportion of the pollution, and may not work. Richard Dixon, the director of WWF Scotland estimates that the Hunterston plant might only capture 17% of its carbon so would emit 320 million tonnes of carbon dioxide over its 40-year life and would pretty much guarantee that Scotland would miss its climate targets. (6)

Nor are there any new commitments to energy efficiency. Davey says "*We are looking into that. We have not excluded it from the final Bill, but we haven't found a way yet to do it.*" (7) The best and cheapest way to make progress on decarbonisation, security of supply and affordability is to reduce the amount of energy consumed. The omission in the bill of the "Negawatts" strategy to incentivise energy savings is puzzling. (8) Instead Energy Bill documents repeatedly point out that UK electricity use is due to shoot up to 2050 as the UK's heating and transport supplies become electrified. "*DECC ministers keep repeating that the cheapest form of energy is the energy you avoid, so it's very surprising that there are no mentions whatsoever to energy efficiency, or consumption reduction, let alone 'negawatts'*," said Andrew Warren, director of the Association for the Conservation of Energy. Warren points out that the only references made to energy efficiency and demand-side reduction measures relate to how they might be included in the capacity mechanism, but apparently DECC only started work on this in March.

The Energy Bill and its associated documents will now be subject to parliamentary scrutiny. The House of Commons Energy and Climate Change Committee has launched an inquiry into the legislation and is seeking views by 4 June.

The government's advisory Committee on Climate Change will issue its opinion on the bill at the end of June. This is not expected to be entirely complimentary. In a statement, the committee said: "*There are questions around the level of ambition for these reforms, and on this the government needs to be clearer that the aim is to achieve early power sector decarbonisation.*" (9)

The Energy Bill has also prompted alarm that Scotland could lose control over the setting of subsidy levels for renewable projects. Westminster could wrest control of renewable incentives after 2017 when the Renewables Obligation regime is abolished. Energy observers and environmental campaigners fear uncertainty over future subsidy levels could jeopardise an estimated £46 billion worth of renewable electricity projects that are in the pipeline in Scotland. (10)

For further discussion on the Government's gas strategy see Carbon Brief 30th May 2012 <http://www.carbonbrief.org/blog/2012/05/ed-davey-selectively-quotes-the-climate-change-committee>

- (1) Renewable Energy Focus 25th May 2012 <http://www.renewableenergyfocus.com/view/25990/uk-draft-energy-bill-what-does-it-mean-for-renewables/>
- (2) Friends of the Earth 22nd May 2012 http://www.foe.co.uk/resource/press_releases/draft_energy_bill_22052012.html
- (3) ENDS 23rd May 2012 <http://www.endsreport.com/33860?printFriendly=true>
- (4) Guardian 28th May 2012 <http://www.guardian.co.uk/commentisfree/2012/may/28/energy-policy-up-in-smoke>
- (5) Independent 27th May 2012 <http://www.independent.co.uk/environment/climate-change/greens-warn-of-a-return-to-era-of-dirty-coal-7791513.html>
- (6) Sunday Herald 27th May 2012 <http://www.heraldscotland.com/news/home-news/scotlands-green-targets-blown-by-westminster.17704813>
- (7) Telegraph 25th May 2012 <http://www.telegraph.co.uk/earth/energy/nuclearpower/9290013/Energy-Secretary-Ed-Davey-charged-with-keeping-the-lights-on.html>
- (8) Herald 23rd May 2012 <http://www.heraldscotland.com/comment/herald-view/no-sign-of-a-power-surge-in-the-draft-energy-bill.17667481>
- (9) ENDS 23rd May 2012 <http://www.endsreport.com/33860?printFriendly=true>
- (10) Sunday Times (not online) 27th May 2012

6. Generic Design Assessment (GDA)

On 14th December 2011 the Office for Nuclear Regulation (ONR) and Environment Agency granted interim Design Acceptance Confirmations (iDACs) and interim Statements of Design Acceptability (iSoDAs) for the UK EPR and the AP1000 reactor designs. The ONR's interim approval for the UK EPR came with a long list of caveats – 31 so-called "GDA Issues". (1)

Since then EDF and Areva have closed out only one of the 31 "GDA Issues" According to the ONR's latest Generic Design Assessment (GDA) quarterly report — issued on 24th May for the period ending March 31 — EDF and Areva have fallen substantially behind in the number of responses to the GDA Issue resolution to date. ONR said the shortfalls in deliverables "*are having an effect on our progress and on our ability to use the (outside) technical support contractors we had programmed to support our work, as their availability is not always guaranteed when the original assessment dates have been missed.*" (2)

The GDA Issue resolution plan Areva and EDF agreed to with ONR called for all GDA Issues to be resolved by November 2012. This will now extend into 2013. Areva and EDF have committed to deploy additional resources and submit a revised GDA Issue resolution plan, but ONR is still waiting to receive it. (3) Building magazine reported that the process is three months behind schedule. (4)

Among the 30 remaining GDA Issues that have yet to be closed is one on the EPR's control and instrumentation (C&I) system, which was the subject of an unprecedented joint regulatory letter from the UK, France and Finland in 2009. The French safety regulator, the Autorité de Sûreté Nucléaire, on April 16 removed its reservations about the digital C&I system for the EPR, but the ONR is still waiting for some deliverables due from EDF and Areva on the C&I GDA Issues.

The process of working to close out the 31 "GDA Issues" is leading to some design changes, according to ONR. "*We have received a number of modification proposals to amend the EPR design to take account of the solutions proposed to some of the GDA Issues,*" ONR said in its latest quarterly report, citing two examples. There are two related design changes to the main coolant loop pipework and both improve the quality of inspection achievable during construction and operation. (5)

- (1) i-Nuclear 15th December 2011 <http://www.i-nuclear.com/2011/12/15/work-remains-on-uk-epr-despite-progress/>
- (2) i-Nuclear 24th May 2012 <http://www.i-nuclear.com/2012/05/24/edf-and-areva-have-closed-out-only-one-of-31-original-gda-issues-on-uk-epr-2/>
- (3) i-Nuclear 2nd May 2012 <http://www.i-nuclear.com/2012/05/02/onr-still-waiting-for-gda-resolution-plans-from-arevaedf-on-uk-epr-design/>
- (4) Building 25th May 2012
- (5) i-Nuclear 25th May 2012 <http://www.i-nuclear.com/2012/05/25/more-design-changes-come-as-areva-and-edf-attempt-to-resolve-gda-issues-on-uk-epr/>

7. French Elections

In the run up to the French Presidential elections there were predictions that a new French government might order EDF to divert billions of euros intended for new UK reactors back into the French domestic power market. With Mr Hollande planning to slash French reliance on nuclear power by 25% by 2025, it is argued that EDF could be forced to switch money to fund investment in French renewables and energy efficiency schemes. At the very least, British energy executives expect the election of Mr Hollande to delay EDF Energy's plans. His administration is likely to review EDF's strategy and possibly replace its leading executives, who, effectively, are political appointees. (1)

François Hollande pledged last year to close 24 of France's 58 nuclear reactors and to reduce the country's reliance on atomic power from 75% of supply to 50%. He also intends to introduce "progressive" reductions in energy tariffs for poor households, which would eat into EDF's profits. It is unclear whether Hollande will act on those promises — the pledge on nuclear plants was part of a pre-election agreement with Green politicians. The latter's power looks to be waning so Hollande may not have to stick to the deal. What is certain is that EDF's plan to spend more than £28 billion on four reactors in Britain while French customers struggle with rising bills will draw scrutiny from the new administration. (2)

The head of EDF Energy has rejected predictions that Francois Hollande, France's new president, could force it to ditch its big investment in new nuclear reactors in the UK. The chief executive of its U.K. subsidiary Vincent de Rivaz said "*As far as I know Britain is not part of France - I don't see any reason why there will be any change.*" (3) "*There's nothing in what Mr Hollande said in his campaign to suggest that they will.*"

- (1) Times 8th May 2012 <http://www.thetimes.co.uk/tto/business/industries/utilities/article3407585.ece>
- (2) Sunday Times 13th May 2012 http://www.thesundaytimes.co.uk/sto/business/energy_and_environment/article1036827.ece
- (3) Dow Jones 3rd May 2012 <http://www.foxbusiness.com/news/2012/05/03/edf-uk-sees-new-nuclear-plans-unchanged-by-france-poll/>
- (4) FT 16th May 2012 <http://www.ft.com/cms/s/1d603564-9e99-11e1-a24e-00144feabdc0.html>

8. West Cumbrian Nuclear Dump moves a step closer - perhaps

The results of a four-year consultation led by three Cumbrian councils that have expressed a provisional interest in hosting the dump, in return for tens of millions of pounds in “planning sweeteners” have been published. The West Cumbrian Managing Radioactive Waste Safely (WCMRWS) partnership said the public consultation had generated 1,300 replies from local people and organisations, and Ipsos Mori carried out a telephone poll of 3,000 people. (1)

The results of the telephone poll showed that 51% of people in Allerdale and 68% of people in Copeland supported taking part in the search for a suitable site for a nuclear dump with 37% and 23% opposed respectively. (2) In the rest of Cumbria 50% of people said they supported Allerdale and/or Copeland taking part in the search for a site for a repository compared with 35% who were opposed.

CLLr Tim Knowles, the current Chair of the Partnership and the Cabinet member for the environment on Cumbria County Council, said: “*Partnership members will now need to consider the results of this survey alongside the responses to the separate consultation which we have carried out. A final report will then be sent to the Councils who will make the decision about whether to take part in the search for a site.*”

The Partnership currently expects to produce a final report this summer. This will then be sent to the three local authorities that will make a formal decision about whether to take part in the search for a site – Allerdale Borough Council, Copeland Borough Council and Cumbria County Council. There is still a long way to go, however, before any dump can be approved. The Nuclear Decommissioning Authority (NDA) says it will need to carry out extensive geological testing. It could take around 15 years to find out if there is a suitable site. In 1992 the government announced plans for a facility in Cumbria, also near Sellafield, but the proposal was rejected following a five-month public inquiry that demonstrated serious technical and safety flaws in the scheme. But recent changes in the planning regime mean that future proposals are unlikely to be subjected to such scrutiny.

Save Our Lake District – Don’t Dump Cumbria! denounced the IPSOS MORI opinion poll. It said: “The respondents to this poll were largely ignorant of this process. 19% of those asked had never heard of it; and 61% had either just ‘heard of it’ or knew ‘just a little’. Only 4% said they knew ‘a lot’ about it and 16% knew a ‘fair amount’. ‘Given this level of ignorance, should the Partnership take these results seriously? ‘And more importantly, what has Osprey Communications been doing with the six figure sums they have been awarded to raise the matter among local people? Their efforts have been a woeful failure’. If the results of the written submissions to the consultation are anything to go by, the more people know in depth about this very complex issue the less they support going ahead. For every one of the 7 questions, about 60% favoured withdrawing now, and 40% favoured going ahead. (3)

Cumbrians Opposed to a Radioactive Environment (CORE) agreed. Martin Forwood said today “*The poll shows that 44% (25% + 19%) - or 1875 out of the 4262 people contacted - had little or no idea about what was going on with the nuclear dump process. On that basis, Ipsos-MORI’s overall conclusion that ‘at least half support taking part in the search for a possible site’ is based on grounds as shaky and unsafe as the West Cumbrian geology*”. (4)

Radiation Free Lakeland points out that the democratic and unanimous NO vote of 75% of Parish Councils (including the three closest to Sellafield – Ponsonby, Beckermeth and Gosforth) seems to have been discounted by the Partnership as of little consequence. A representative from Upper Derwent Parish Council asked what independent regulator should they could voice concerns to about this and other Partnership failings. The answer – The ‘Decision Making Bodies’ – in other words the very Local Authorities which will make the final decision based on the Partnership’s advice. (5)

Stuart Haszeldine, Professor of Sedimentary Geology at the University of Edinburgh, (6) says the government seems to find it more convenient to shoe-horn radioactive waste into a geologically

delicate area under a carefully managed sham of local democracy, than look for a geologically suitable site. The national public good is being obscured by the narrowest of interests, to the potential grave danger of future generations.

He says international guidelines are quite clear for radioactive waste disposal. A simple geology, slow groundwater flow, correct groundwater chemistry, predictable into the future for one million years. In layman's language, that is flat rocks, with no faults, away from hills and stagnant groundwater deficient in dissolved oxygen. Unfortunately, these guidelines are not legally rigid, so the UK can ignore them. West Cumbria is an *unsuitable* site because of its geological complexity (it's a subsided volcano with many extra faults), there is upward flow of groundwater past the waste, heading to the surface; and the water is chemically "oxidized" – which makes uranium soluble. (7)

Professor David Smythe, former chair of geophysics at the University of Glasgow, said the area around Copeland and Allerdale was "*one of the worst places geologically in the UK*" to dump nuclear waste. "*In West Cumbria water flows deep underground from hills and comes up near the surface,*" he said. "*We've done technical modelling, showing that the dissolved waste could come back to the surface in a few thousand years. West Cumbrian geology is very well understood, and we know it is geologically one of the most complicated sites in the world. If Sellafield was not there, it would be passed over immediately.*" (8)

Meanwhile, Ten thousand letters have been sent to residents of Shepway district around Folkestone in Kent, canvassing their views about siting the proposed Nuclear Research and Disposal Facility in the geological strata deep beneath Romney Marsh. The fact that solidly-Tory Shepway – Tory majority, 44 out of 46 council seats, with two independents – is now showing stirrings of interest will increase the pressure on pro-dumpers in Cumbria, and reduce their bargaining power with the Government. (9) Councillors say the £12 billion facility could create jobs in the Rye area when the Dungeness A and B power stations are phased out. Kent County Council says it will use "every tool in the box" to oppose the scheme. (10)

- Watch the Lecture given by Dr Helen Wallace in Kendal, May 2011 on You Tube. Radiation Free Lakeland 14th May 2012
<http://mariannewildart.wordpress.com/2012/05/14/rock-solid-lecture-by-dr-helen-wallace/>
 - Draft consultation summary and Partnership response available here: West Cumbria Managing Radioactive Waste Safely 16th May 2012
http://www.westcumbriamrws.org.uk/meetings_more.asp?news_id=53
- (1) Sunday Times 13th May 2012
http://www.thesundaytimes.co.uk/sto/news/uk_news/Environment/article1037907.ece?lightbox=false
 - (2) West Cumbria Managing Radioactive Waste Safely Partnership 22nd May 2012
http://www.westcumbriamrws.org.uk/news_more.asp?news_id=45
 - (3) SOLD Press Release 23rd May 2012 <http://mrwsold.org.uk/2012/05/23/little-or-no-knowledge-is-the-basis-for-pro-dump-opinion-poll-result/>
 - (4) CORE 23rd May 2012 <http://www.corecumbria.co.uk/newsapp/newsmain.asp?StrNewsID=301>
 - (5) Radiation Free Lakeland 22nd May 2012 <http://mariannewildart.wordpress.com/2012/05/22/they-told-me-it-was-already-safe-and-the-economic-benefits-would-be-huge-i-would-not-have-said-yes-ipsos-mori-poll-respondent/>
 - (6) Managing Radioactive Waste Safely 2012, Edinburgh University School of Geo Sciences.
http://www.geos.ed.ac.uk/homes/rsh/MRWS_2012.html
 - (7) Open Democracy 15th May 2012 <http://www.opendemocracy.net/openeconomy/stuart-haszeldine/how-to-bury-nuclear-waste-under-democratic-carpet-in-cumbria>
See also Channel 4 News 26th May 2012 <http://www.channel4.com/news/scientist-criticises-plan-for-nuclear-waste-site-in-cumbria>
 - (8) Times 23rd May 2012 <http://www.thetimes.co.uk/tto/news/uk/article3422595.ece>
 - (9) Independent 17th May 2012 <http://www.independent.co.uk/environment/green-living/romney-marsh-set-to-become-nuclear-dump-7757979.html>

ITV Border 17th May 2012
<http://www.itv.com/news/border/2012-05-17/cumbria-v-kent-for-nuclear-waste/>
(10) BBC 16th May 2012 <http://www.bbc.co.uk/news/uk-england-kent-18086988>

9. Hinkley Delays

With delays to the start of the site clearance work at the site of a proposed new nuclear station at Hinkley Point in Somerset and delays in awarding the main civil engineering contract, questions are being asked about whether EDF is playing an elaborate game to maximise the subsidy the Government is willing to pay or whether it is simply waiting for the new French Government to settle in before it presses the go button.

The £100m earthworks contract for Hinkley Point C, which was awarded to construction companies Keir and BAM Nuttall in December last year, (1) has been delayed according to *The Guardian*. The massive earthworks needed to prepare the ground involve moving millions of cubic metres of soil and rock at the Hinkley site. The work was due to begin in August, according to West Somerset council's planning department. But EDF staff have been told the work will now start in 2013. An EDF spokesman said some preparatory work had begun since planning permission was granted in February, including cutting hedges and demolishing old buildings. Internally, EDF blamed the delay on cost overruns on the preparatory work. One source involved in the project told *the Guardian* the work so far had been a "farce". (2)

EDF refuted the report saying it was making good progress with the site preparation work. EDF said: *"Following approval from West Somerset Council, we started Site Preparations work at Hinkley Point C in February this year and are making good progress. The current phase includes archaeological excavations; fencing and demolishing old disused barns."* (3) Nevertheless it seems that the Keir Bam joint venture is not expecting work to get going until next spring at the earliest. (4)

Now EDF has delayed making a decision on which contractors to award the massive £1.2bn civil engineering package for Hinkley by at least "a few weeks". The two main bidders led by Laing O'Rourke and Balfour Beatty had been expecting to hear who had won the contract in the week ending 25th May but the election of new French President Francois Hollande has prompted a fresh look at the project. EDF is 83% owned by the French state. (5) The consortia are now not expecting a decision until late summer at the earliest or even 2013. This means, according to *The Guardian*, that the soonest a new reactor can be built could now be 2021, around four years later than originally hoped. (6)

Now the bidders for the civils job are bracing themselves for a series of savage cost cuts in the contract value. The contractors fear delays in the contract award will give EDF the chance to squeeze margins on the job. A source close to the project told the *Construction Enquirer*: *"Everything is being delayed now and there seems to be little urgency about awarding the contract. It's such a massive job the client knows it can keep bidders hanging on. I'm sure they will use this extra time to compare the two bids and incorporate the best, or cheapest solutions, in the final win. The price is sure to get driven down while EDF demands the highest rates it can for energy produced by the plant."* (7)

EDF Energy told Platts that it expects to make an announcement on the civil engineering contract "soon". Responding to press reports that the contract had been put on hold until at least 2013, a spokesman said the company expects to be able to make an announcement to take forward this particular contract soon. To date, contracts worth a total in excess of £750 million have been let to over 370 companies, the spokesman added.

- (1) The Engineer 13th December 2011 <http://www.theengineer.co.uk/sectors/energy-and-environment/news/kiel-bam-wins-hinkley-point-c-site-preparation-contract/1011234.article>
- (2) Guardian 14th May 2012 <http://www.guardian.co.uk/environment/2012/may/14/hinkley-nuclear-power-station-delay>

- (3) Western Daily Press 16th May 2012 <http://www.thisissomerset.co.uk/story-16096946-detail/story.html>
- (4) Construction Enquirer 18th May 2012 <http://www.constructionenquirer.com/2012/05/18/hinkley-decision-delayed-on-1-2bn-contract/>
- (5) Construction Enquirer 18th May 2012 <http://www.constructionenquirer.com/2012/05/18/hinkley-decision-delayed-on-1-2bn-contract/>
- (6) Guardian 27th May 2012 <http://www.guardian.co.uk/business/2012/may/27/edf-nuclear-delay>
- (7) Construction Enquirer 30th May 2012 <http://www.constructionenquirer.com/2012/05/30/bidders-braced-for-1-2bn-hinkley-cost-cuts/>
- (8) Platts 29th May 2012 <http://www.platts.com/RSSFeedDetailedNews/RSSFeed/ElectricPower/8336531>

10. Horizon (Disappearing over the ...)

Volker Beckers, CEO at RWE npower and Tony Cocker, CEO of E.ON UK have been giving evidence to the House of Commons Energy and Climate Change Committee on why the two utilities cancelled plans to build new reactors at Oldbury in Gloucestershire and Wylfa on Anglesey. Investing billions in new reactors would have forced a credit-rating downgrade on RWE, said Beckers and Cocker said E.ON lacks the "financial firepower". Despite E.ON's pull-out, Cocker told MPs the UK had the best policy environment for investment in new nuclear power in Europe: "*But investors will need greater patience than us.*" (1)

ENERGY minister Charles Hendry told MPs that Horizon needs to find new investors if it is to survive because its existing backers will not stump up more cash. "*We have quite actively sought investment (in Horizon) from sovereign wealth funds, in different parts of the world because of their desire to invest in low carbon technologies,*" Hendry told the committee. Five groups are currently eyeing the purchase of Horizon, including U.S., Chinese and Middle Eastern investors. (2)

But the Russian state-owned energy giant Rosatom has categorically denied it has any interest in buying Horizon Nuclear Power. (3) Backers must be found urgently before its staff leave and make a sale impossible. Charles Hendry says there is a "window of a few months" to sell Horizon. It is understood that its 100-strong workforce will leave at the beginning of July unless new funding can be secured. (4)

Hendry visited the Horizon HQ in Gloucester at the end of May to reassure the 130 nuclear workers that their jobs were not under threat. He told them the Government is progressing with talks with potential new partners who would take over Horizon. (5)

David Cameron has been lobbying Japanese firms to replace German energy giants Eon and RWE, which have decided to pull out of the nuclear business in Britain. (6) China's Guangdong Nuclear Power group and Toshiba, the Japanese industrial giant that owns reactor builder Westinghouse, are believed to be favourites to bid for Horizon. Bids must be completed by June 15. A second nuclear consortium, headed by China's State Nuclear Power Technology Corporation with links to Westinghouse, is also working on a bid. Horizon, which is worth about £300 million, owns the land where the new plants will be built. It is expected that the project will be managed by Exelon, the US's biggest nuclear operator, which has about 20% of its home market and runs ten power plants. (7)

- (1) Guardian 15th May 2012 <http://www.guardian.co.uk/environment/2012/may/15/energy-companies-abandonment-nuclear-plans?newsfeed=true>
- (2) City AM 16th May 2012 <http://www.cityam.com/latest-news/nuclear-project-the-hunt-new-backers>
- (3) Holyhead and Anglesey Mail 9th May 2012 <http://www.theonlinemail.co.uk/bangor-and-anglesey-news/local-bangor-and-anglesey-news/2012/05/09/russian-energy-giants-deny-interest-in-horizon-nuclear-power-66580-30930630/>
- (4) Times 16th May 2012 <http://www.thetimes.co.uk/tto/business/industries/utilities/article3415431.ece>
- (5) This is Gloucestershire 24th May 2012 <http://www.thisisgloucestershire.co.uk/Energy-minister-reassures-130-county-workers/story-16175566-detail/story.html>
- (6) This is money 19th May 2012 <http://www.thisismoney.co.uk/money/news/article-2146904/New-nuclear-stations-threat-talks-fail-tempt-foreign-firms.html>

- (7) This is money 27th May 2012 <http://www.thisismoney.co.uk/money/markets/article-2150638/China-Japan-lead-running-build-nuclear-power-plants-Britain.html>

11. Sellafield Déja Vu

A plan to build up to six storage tanks for highly active liquid waste (HASTs) at Sellafield at a cost up to £1.5 billion looks likely to be abandoned, while Sellafield Ltd says it needs up to another £276m to complete the delayed and over-budget Evaporator D project, which is needed to reduce the amount of liquid nuclear waste by evaporation of water, before it can be turned into glass blocks.

HASTs tanks are used to store highly radioactive, heat generating, liquid wastes which are produced as a result of reprocessing spent nuclear fuel. The new tanks were meant to replace capacity from an ageing 21-tank complex which includes some tanks dating back to 1955. Even the newest existing tanks were commissioned between 1970 and 1990 and have increasingly had their cooling components fail. In 2010, Sellafield Ltd. awarded a contract to design a replacement HAST facility which was expected to enter commissioning around 2016, but now isn't scheduled for delivery until 2019. With both reprocessing plants expected to be closed by 2018 the replacement tanks may no longer be considered necessary.

Meanwhile the new evaporator D is acknowledged to be overbudget and behind schedule. As recently as late last year, it was thought a significant delay in the delivery of Evaporator D could cause an early closure of Thorp. (1) Sellafield Ltd says that the final costs of building Evaporator D complex to handle Britain's liquid nuclear waste will need to be increased from £397m to between £599m and £673m. This is more than six times the original estimate for the project. The extra costs of completing the project will wipe out the company's efficiency savings of £182m and come on top of the £1.34 billion wasted on the Sellafield Mox Plant. (2)

Evaporator D was originally planned to cost about £100m and was supposed to be completed by 2010 to replace the three existing evaporators at Sellafield. The delayed completion date of 2016 for Evaporator D threatens to disrupt the operating timetable of Sellafield's Thermal Oxide Reprocessing Plant (Thorp), which is scheduled for closure in 2018 and lies at the heart of the site's massive reprocessing operation. Many tens of millions of pounds extra will have to be spent on Thorp if Sellafield is forced to keep it operating longer than planned.

An NDA spokesman said that "*the future requirement for HAST tanks and, to a degree, evaporators is dependent on the outcome of the NDA's Oxide Fuel Strategy, which will determine the conclusion of reprocessing at the Thorp plant.*" This is due to be published in the next month or so.

- (1) i-Nuclear 16th May 2012 <http://www.i-nuclear.com/2012/05/16/hast-tank-project-may-be-abandoned-as-sellafield-reviews-thorp-evap-d-future/>
(2) Independent 30th May 2012 <http://www.independent.co.uk/news/uk/home-news/sellafield-needs-extra-276-million-of-taxpayers-money-to-complete-uks-biggest-nuclear-construction-project-7804779.html>

12. It's not Rocket Science: A Green Investment Bank needing to prove itself; a government in search of growth; and an energy policy in desperate need of rescue.

"What stands out when comparing the response of the UK, Germany and Japan to Fukushima is Germany's responsive governance, which translates its citizens' concerns into opportunities for Germany PLC. The opposite is the case in Britain, where governance tends to strangle innovation and continues to push an increasingly untenable nuclear strategy, despite the preference for renewable energy of most of its citizens" says Catherine Mitchell, professor of energy policy at the University of Exeter. (1)

In May Germany set a new world record for solar power generation, generating the equivalent to 20 nuclear power stations. It is the battle between nuclear, fossil fuels and renewables, and between the big utilities and the community-owned renewables eating into their profits, that has driven Germany's radical energy transformation to the top of its political agenda, with success seen as vital to Chancellor Angela Merkel's hopes of re-election in 2013. (2)

Germany's long support for wind and solar energy is delivering zero-cost electricity at times. In contrast, the UK's new energy policy seeks to underwrite the rising cost of nuclear. While mass-produced renewable energy technologies are pushing the costs downwards, nuclear energy is completing the journey from "*too cheap to meter*" to "*too expensive to count*". It is surprising that something that is completely obvious to people in Germany is suppressed in the UK. (3)

Solar PV was the most installed energy source in Europe during 2011 according to the European Photovoltaic Industry Association (EPIA). Solar PV capacity rose by 63% to reach 21.9GW. The rapid rise of solar across Europe has been helped by the increased uptake of incentive schemes, such as the feed-in tariff, combined with increased Governmental subsidies. Solar PV technology is spearheading a European renewable revolution despite the trying economic conditions. European solar capacity installed in 2011 outstripped new wind and gas capacity combined, which each saw 9.5GW of capacity installed in 2011. (4)

Meanwhile the German development bank KfW is showing Business secretary Vince Cable, how a Green investment bank (GIB) should be run. KfW borrows freely and is transforming the energy efficiency of the nation's homes. The UK's fledgling equivalent will do neither. The work of KfW is very relevant to the UK's troubled Green Deal plan to make 14m British homes warmer and cheaper to heat. The UK Green investment bank has £3bn of taxpayers' money and will not, as it stands, support any home refurbishments, despite many experts saying this is exactly the sort of investment it should assist.

So what has KfW achieved? Since 2001, its loans have helped insulate and seal over 2m homes, employing 200,000 people a year in the process. Since 2006, 156m tonnes of carbon have been saved, equivalent to over a quarter of the UK's total annual emissions. The key is very low interest rates, currently 1-2%. These are delivered via KfW's top credit rating, topped up by further government subsidy of the interest rate. In 2011, the state put in just under €1bn, which KfW turned into €6.5bn in loans, which created a total investment of €18.5bn – that's a 20-fold leverage on the state subsidy. The UK government has talked of Green deal loans around £6,000. German homeowners can borrow up to €75,000 via KfW. The latter sum gets you a very cosy and efficient home indeed, often including some domestic low-carbon power generation. In the KfW scheme, the higher you aim, the better the deal. For the most efficient homes – Passivhaus standard - you get up to 12.5% of the loan handed back to you. And if you don't like loans, you can get a grant of up to 20% of the cost of the works. It all adds up to a massive commitment to energy efficiency. (5)

- (1) Guardian 3rd May 2012 <http://www.guardian.co.uk/environment/2012/may/03/japan-nuclear-power-post-fukushima?intcmp=122>
- (2) Guardian 30th May 2012 http://www.guardian.co.uk/environment/2012/may/30/germany-renewable-energy-revolution?CMP=tw_t_gu and Guardian 28th May 2012 <http://www.guardian.co.uk/environment/2012/may/28/solar-power-world-record-germany>
- (3) Guardian 22nd May 2012 <http://www.guardian.co.uk/environment/damian-carrington-blog/2012/may/22/energy-nuclear-renewables>
- (4) Solar Power Portal 9th May 2012 http://www.solarpowerportal.co.uk/news/solar_was_europes_most_installed_energy_source_in_2011_2356
- (5) Guardian 24th May 2012 <http://www.guardian.co.uk/environment/damian-carrington-blog/2012/may/24/green-investment-bank-energy-efficiency>