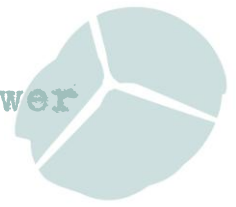


No.57 December 2013

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1. Where goes energy efficiency?

In November 2013 *The Sun* published allegations that David Cameron ordered his aides to “*get rid of all the green crap*” – meaning the so-called green levies on energy bills. (1) Although Downing Street denied this, (2) it is clear that the Government’s energy efficiency policies are under attack. Cameron has told the House of Commons he wants to “roll back” the green levies which add £112 a year to an average household energy bill to fund renewable power subsidies and efficiency programmes.

The Government confirmed plans on 2nd December to reduce some of the green levies, sufficient to reduce the average energy bill by around £50 per year. (2) Firstly the Warm Homes Discount which helps millions of vulnerable households by giving a £135 rebate off their energy bill will be paid from general taxation for two years. (This will save £12.) Secondly there will be a range changes to the Energy Company Obligation Scheme (ECO). The Carbon Emissions Reduction Obligation element, which pays for solid wall insulation, will be reduced by 33 per cent for the period to 2015, with a new target for the period to 2017 reflecting this same level of activity. The part of ECO activity which is currently directed at low income and vulnerable households will be extended to 2017. And energy suppliers will be able to insulate easy-to-treat cavity walls and lofts as part of their ECO carbon targets. (This will save about £30-£35 on the average bill). Energy companies are also taking "voluntary action" to cut distribution costs, contributing around £5 on average to the value of the cuts. (3)

In addition the Green Deal will be strengthened, streamlined and reformed and there will be a further £540 million in new incentives and support to boost take up of energy efficiency measures for both households and in the public sector. This includes a £1,000 stamp duty rebate for householders buying a new house to carry out efficiency improvements and a scheme to help private landlords make efficiency improvements.

All-in-all the Government says the changes will be carbon neutral, because the increase in emissions caused by changes to ECO will be offset by the Green Deal changes. (4)

Before the details of the announcement were announced the UK Green Building Council said: *“If ministers think they have ‘saved ECO’ by allowing energy companies longer to deliver the same amount of energy savings, they are in for a real shock. Diluting the ambition of the scheme, and dramatically reducing the amount of solid wall installations, would increase winter deaths and fuel poverty in cold homes, and put 10,000 people out of work in the energy efficiency industry.”* (5)

Subsequently Paul King said: *“Make no mistake, this is bad news for people who cannot afford to heat their homes, especially if they live in solid walled properties, and bad news for thousands of construction industry workers who may well be joining the dole queue this Christmas. It remains perverse that the prime minister is attempting to reduce energy bills by slashing the very scheme that is designed to bring them down for good. We have to recognise that some in the coalition have fought hard for a package of incentives to sweeten the pill. Encouraging households to take up energy efficiency measures when moving into a property through a ‘Stamp Duty rebate’ is something we have repeatedly called for.”* (6)



But what does all this mean for the debate about alternatives to nuclear power? For instance how do current Government plans for energy efficiency compare with the sort of programme we would need to make building new reactors unnecessary? And, given concerns about rising energy costs for households and Labour's plans for a 20 month energy price freeze, what sort of efficiency programme would we need to eliminate fuel poverty, and how does that compare to current plans?

Current Government Expectations

We know that nuclear power supplies only about 3.6% of total energy used in the UK, and that according to Kevin Anderson, a senior research fellow at the Tyndall Centre for Climate Change Research, we could very easily replace existing reactors with a moderate increase in energy efficiency. What is more, Anderson says, a wider use of energy efficiency measures such as house insulation and fuel-efficient cars could almost halve energy demand. (7)

On the other hand, the National Policy Statement on Energy (EN-1) said:

"...even with major improvements in overall energy efficiency, we expect that demand for electricity is likely to increase, as significant sectors of energy demand (such as industry, heating and transport) switch from being powered by fossil fuels to using electricity."

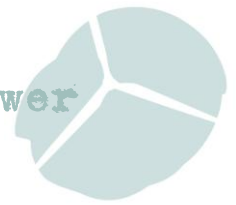
As a result of this electrification of demand, total electricity consumption (measured in terawatt hours over a year) could double by 2050. Depending on the choice of how electricity is supplied, the total capacity of electricity generation (measured in GW) may need to more than double to be robust to all weather conditions. In some outer most circumstances, for example if there was very strong electrification of energy demand and a high level of dependence on intermittent electricity generation, then the capacity of electricity generation could need to triple. (EN-1 para 3.3.14)

EN-1 predicts that the UK would need at least 113 GW of total electricity generating capacity by 2025 (compared to around 85 GW now), of which at least 59 GW would be new build. Of this 59GW, 33GW needs to come from renewables, and the remaining 26GW will be determined by the market, but the Government would like 16GW to be nuclear. (EN-1 para 3.3.22)

EN-1 says:

"Reducing demand for electricity is a key element of the Government's strategy for meeting its energy and climate change objectives. The 2050 Pathways Analysis shows that total UK energy demand from all sectors (heating, transport, agriculture, industry and electricity demand) will need to fall significantly per head of population by 2050 and in the most extreme scenarios, total energy demand could be almost 50% lower than 2007 levels by 2050. The analysis highlights the importance of energy efficiency and the potential that this can have to help achieve our carbon emission reduction targets."

UK electricity demand in 2010 was around 370TWh. FoE's energy scenario sees this increasing to 470TWh by 2030. (8) But FoE also points out that a July 2012 draft report for DECC by McKinsey argues that an enormous 155 TWh of electricity demand reduction is possible, and 140 TWh of that at negative cost. (9)



We can see from the McKinsey report that the Government is only expecting to capture around a third of the demand reduction potential, leaving around 100TWh of savings still available.

McKinsey says, excluding the impact of any policies, underlying electricity demand is likely to grow to 411TWh by 2030. But electrification of vehicles and heating could add an additional ~5-15% to electricity demand in 2030 (i.e. increasing demand to 432TWh to 473TWh – the upper figure being similar to FoE’s number).

Electricity consumption per year	Current Consumption	Consumption in 2030 without policies	Potential Savings	McKinsey Analysis Focus	Current Gov Policies
TOTAL	328TWh	411TWh	155TWh	127TWh	54TWh
Residential	119TWh	138TWh	66TWh	58TWh	44TWh
Services	78TWh	110TWh	47TWh	45TWh	6.75TWh
Industrial	104TWh	128TWh	31TWh	24TWh	6.4TWh
Public Administration	19TWh	26TWh	11TWh		
Agriculture	4TWh	4TWh			
Transport	4TWh	4TWh			

The change due to the impact of current energy efficiency policies on the 411TWh would be a reduction of 54TWh. But the switch to electric heating and electric vehicles could add 58TWh of new demand by 2030. This compares with the 70TWh produced by nuclear stations in 2012 (out of a total of 363TWh of electricity produced) (10) and the 25TWh/year which Hinkley Point C could generate if it manages to operate at a 90% load factor which is unlikely.

In the residential sector alone potential efficiency savings amount to 66TWh. Current Government policies expect to save 44TWh of this which breaks down as follows:

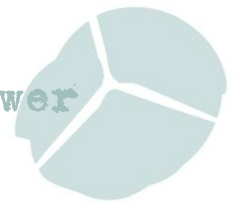
Products Policy 25TWh

Building Regulations 3.3TWh

Green Deal/ECO and predecessors 7.5TWh

Smart Metering 3.2TWh

EU Emissions Trading Scheme 4TWh



Interestingly, most of the 54TWh, which the Government expects to save overall, would come from the domestic sector.

The potential saving of 66TWh in this sector includes: 26TWh from switching incandescent bulbs to CFLs; switching to more efficient appliances and consumer electronics 17.6TWh and building shell improvements 14.8TWh (New Build; 3.8TWh; Retrofit 11TWh).

In the services sector (including public administration) around 22.4TWh could be saved from building envelope improvements, and 21.5TWh in lighting, making a total of 43.9TWh, and all at negative cost. Of this, the Government only expects to save 6.75TWh – leaving 37.15TWh of savings un-captured. DECC itself found that commercial sector-wide electricity savings from energy efficiency retrofit (including insulation, heating, lighting and products and appliances) could total 18.9 TWh by 2030. However, DECC says this is a conservative estimate and therefore the potential for energy savings may be greater than this. (11)

In the industrial sector, the Government is only expecting a saving of 6.4TWh/year compared with the 20.8TWh which McKinsey reckon could be saved from motors and pumps.

Overall there are 100TWh of potential efficiency savings which the Government is failing to capture. This would be more than enough to replace the existing nuclear programme (70TWh) or enough to replace four power stations the size of Hinkley Point C operating at an unlikely 90% load factor.

At 7.5TWh/year the electricity savings from ECO and Green Deal are relatively small beer, compared, for instance, to the 25TWh which the Government expects to save from products policy – efficient appliances and banning incandescent light bulbs, or the 37TWh extra which could be saved in the services sector or the 14.4TWh extra which could be saved in the industrial sector just from more efficient motors and pumps.

But building fabric improvements in the domestic sector will also save gas and oil, thus obviating the need to switch these forms of heating to electricity at a later date.

Total inland primary energy consumption (excluding conversion and distribution losses) in 2012 was given as 140.6 million tonnes of oil equivalent which equals 1635TWh. (12) (According to Professor Dave Elliot this may fall to ~1,400TWh/year by 2030 and 1,300TWh/year by 2050.) (13)

	Mtoe	TWh
Industry	25.2	293
Domestic	43.2	502
Transport	53.2	619
Services	19.0	221



Domestic consumption of energy breaks down as follows:-

	Mtoe	TWh
Coal & manufactured fuels	0.7	8
Gas	29.2	340
Oil	2.7	31
Electricity	9.9	115
Bio-energy & heat	0.7	8

So, gas consumption in the domestic sector is almost three times electricity consumption in TWh.

According to the Association for the Conservation of Energy the original ECO before the changes was expected to save around 1.6TWh/year (energy, not just electricity) over the period it was in operation in 2014 and the first quarter of 2015. (14) If a similar scheme were to operate until 2030, making savings at the same rate, this could save 20TWh/year.

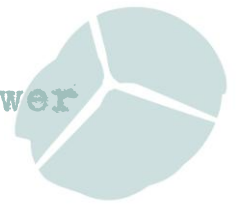
According to the Pathways to 2050 report gas heating is expected to fall rapidly from around 2020 with heat pumps largely taking its place. Almost all new installations of heating systems over the period from 2020 to 2035 would need to be heat pumps to achieve the Government's expected carbon reductions trajectory under this scenario. (15) So a saving of 20TWh/year would ultimately reduce the need for new electricity generating capacity.

At the rate ECO is supposed to operate during 2014 it would take 88 years to complete the solid wall insulation, 14 years to complete cavity wall insulation and 40 years to complete loft insulations. If this work were speeded up the savings by 2030 could be much higher.

Fuel Poverty

The National Insulation Association (NIA), responding to the latest figures from the Office for National Statistics which estimates that there were 31,100 excess winter deaths in England and Wales in 2012/13 said *"There are still some 7m solid walls, 5m cavity walls and 7m lofts that lack effective insulation and tackling these as quickly as possible should be an absolute priority to help address the cost of living as well as reducing fuel poverty and excess winter deaths."*

Up to the end of September there were 303,795 measures installed under ECO during 2013. Under ECO, Cashback and Green Deal there were 311,250 measures installed in around 273,000 properties over the same period. The large majority of installed measures (98 per cent) were delivered through ECO. The current Energy Company Obligation only runs until 31st March 2015. (16) At the current rate of progress it will take almost 50 years to make sure every UK house has effective insulation. According to the Energy Bill Revolution campaign around 1 in 5 households are now suffering from fuel poverty – or about 5 million. If all energy efficiency



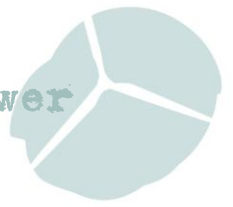
expenditure was devoted to these fuel poor houses it would take about 12 years to insulate all fuel poor households.

Conclusions

Domestic building fabric efficiency schemes, such as ECO, are not currently hugely important in terms of reducing electricity demand. These programmes are more important for social welfare, and reducing fuel poverty. But if, as expected, domestic heating moves from being dominated by gas central heating to being dominated by electricity-powered heat pumps between 2020 and 2035, building fabric improvements will become much more important to electricity saving.

In the meantime, if the UK aimed to capture much more of the potential electricity savings available from building envelope improvements and lighting in the services sector, and more efficient motors and pumps in the industrial sector between 50 and 100TWh could be saved, much of it at negative cost, removing the need for any new nuclear reactors.

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 10. See <http://www.world-nuclear.org/info/Country-Profiles/Countries-T-Z/United-Kingdom/>
 11. See Building Efficiency: Reducing Energy Demand in the Commercial Sector, Westminster Sustainable Business Forum and Carbon Connect, November 2013, page 20. http://www.policyconnect.org.uk/wsbfb/sites/site_wsbfb/files/report/403/fieldreportdownload/wsbfbreport-buildingefficiency.pdf
 12. UK Energy in Brief 2013, July 2013 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224130/uk_energy_in_brief_2013.PDF
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 14. Energy Efficiency: Fighting to Keep Bills Down Permanently, ACE, November 2013 <http://ukace.org/wp-content/uploads/2013/11/ACE-November-2013-Energy-efficiency-fighting-to-keep-bills-down-permanently.pdf> (See table 16, page 54)

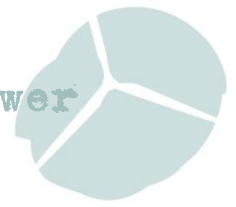


15. Pathways to 2050 – key results

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48072/2290-pathways-to-2050-key-results.pdf

16. Domestic Green Deal and Energy Company Obligation in Great Britain Monthly report, DECC, November 2013

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/259374/Statistical_Release_-_Green_Deal_and_Energy_Company_Obligation_in_Great_Britain_-_19_Nov_2013.pdf



2. Energy efficiency in chaos

The uncertainty surrounding the future of energy efficiency caused by David Cameron's pledge to drop green charges on energy bills is having a "wholly devastating impact" on the industry. John Sinfield, managing director of Knauf Insulation, said in a letter to the prime minister: "*Do you really want to condemn more families to the choice of eating or heating this winter? Addressing the energy efficiency of our homes is the only route which offers permanent savings year on year.*" (1)

Scrapping ECO would cost tens of thousands of future UK jobs. The energy companies' obligation (ECO) is likely to provide 46,000 jobs within the next two years, according to the Association for the Conservation of Energy, in an analysis using the government's own estimates of employment. Most of those jobs - the majority of which are "blue collar" jobs in installing insulation, new boilers and construction projects - are now potentially at risk following government backtracking. If the scheme were abandoned, as some have called for, at least 30,000 of these jobs would be at risk. Scaling back the scheme, rather than abandoning it, would also result in significant job losses: halving the main requirements would cut employment by 10,000 people in the next year and an additional potential 7,500 future jobs would be foregone. (2)

Carillion's energy services business has already announced that it will cut 1,000 jobs due to the faltering Green Deal market. (3)

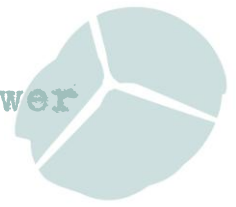
Eco – badly designed

John Sinfield also says that "Eco has been designed poorly, implemented badly and has not delivered on its potential. But it is not broken. My plea to you is to put the policy right ... rather than consider sacrificing it at the altar of short-term political point scoring." At least five other companies and organisations have also written to Cameron expressing the same fears. Geoff Mackey, a director at another major insulation manufacturer, BASF, said ECO was important and targeted at those who most needed it, but that it could be improved. (4)

The UK has the worst levels of fuel poverty in the EU after Estonia. It has the oldest housing stock in Europe and over 5m homes still lack cavity wall insulation, while 7m lofts are inadequately insulated. Sinfield described the green deal, as "failing". Ministers claimed the green deal would treat 14m homes by 2020, but since January just 57 green deals have been completed. "We in the industry have put to you what a successful Eco and green deal would look like time and time again," said Sinfield in the letter.

British Gas said ECO should be more focussed at the less affluent. Just over half of the £1.3 billion annual cost of the scheme is spent on installing the most expensive types of energy-saving measures, such as solid-wall insulation, which costs about £8,000 for each home. Victorian houses and other "hard-to-treat" properties stand to benefit, regardless of who owns them. (5)

Superglass chief executive Alex McLeod - the boss of the Stirling-based insulation maker has also called for ECO to be altered so that it encourages households to install low-cost loft and



cavity-wall insulation rather than more expensive energy efficiency measures, such as replacing boilers. (6)

ECO is failing, according to Which?. And the Green Deal is attracting just 1% of targeted take-up, according to IPPR. The Which? report says the schemes have failed to help the majority of home-owners, with 14m out of 27m homes still lacking adequate insulation and calls for a "radical overhaul" of policies. (7)

Which? calls for the Government to "implement immediate reforms" to ECO by prioritising low-cost energy saving measures rather than expensive measures such as solid wall insulation. It says this could save between £242m-£363m a year while "helping at least the same number of households and still meeting its carbon targets".

Andrew Warren, director of the Association for the Conservation of Energy, says the Big Six "...have collected £1bn and spent a small proportion of it. This is cynical price-gouging by the big energy companies. We are discussing social obligations here, not a green tax. These companies are blaming ECO for rising energy bills, but they haven't been carrying out [the number of installations needed]." Figures from Ofgem showed that the companies had achieved as little as 3% of the measures to be carried out under one section of the Energy Companies Obligation (ECO), by which they are supposed to pay for solid and cavity wall insulation, particularly for people on low incomes or with hard-to-insulate properties. Companies had achieved 16% of what they needed to do to help rural areas and put in district heating systems, and 25% of the target on measures that reduce the overall cost of home heating for low-income and vulnerable households, including new boilers. These figures come as the scheme is more than halfway through, as the full complement of measures must be installed by March 2015. (8)

More than 98% of the energy-saving measures installed in British homes by government policies since January have been via the ECO scheme as opposed to the Green Deal. Energy and climate change minister Greg Barker welcomed an increase in the number of people having their homes assessed for the green deal. "Over 100,000 assessments have now taken place. With more than 270,000 properties made more energy efficient this year thanks to ECO and the green deal, it's clear that Britain's homeowners are serious about making their homes warmer and taking control of their energy bills." But Paul King, at the UK Green Building Council, said: "The figures underline is that energy efficiency measures delivered under the ECO dwarf those under the green deal, which demonstrates just how perverse it is for government to be considering cutting it back." (9)

A new analysis by the National Audit Office (NAO), underline the importance of ordinary consumers being given help to save energy. NAO suggests that recent energy price rises are part of a longer term trend. A report from the NAO says consumers can expect above-inflation energy bills rises for another 17 years. It blames most of the cost increase on the need to upgrade the UK's ageing energy infrastructure. The NAO says the government plans to attract £310 billion of infrastructure investment in the coming decades, £110 billion of which is for energy projects. Consumers are ultimately going to foot the bill, it warns - with lower income households feeling the impact the most. (10)

According to the Office of Budget Responsibility, during 2013/14 the Climate Change Levy (CCL) and the new Carbon Floor Price together will raise £1.5bn for the Treasury. The Carbon

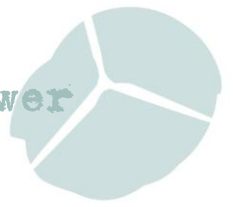


Reduction Commitment – originally an imaginative trading scheme, now just a revenue raiser – levies some £0.74m. And receipts from the EU emissions trading scheme (EU:ETS) add a further £0.7bn. These green taxes will net the Treasury £3bn this year. Additionally, total VAT tax take from residential sector fuel is now up at £2bn a year, compared with just £1bn ten years ago. Even the latest announced price hike nets the Treasury an extra £180m from VAT.

All this completely dwarfs the amounts which the Big Six energy companies are told to raise, amounts that – with the exception of the smart meter programme – were around at similar rates last year too. In contrast, it is the green taxes on the productive part of the economy that are soaring. To quote the latest figures from HM Revenue and Customs, the introduction of the carbon floor price in April is pushing up the combined tax receipts from it and the CCL by a whopping 93.6 per cent since last year. And the carbon floor price is set to rise astronomically. By 2015/16 it is set to be up around £2bn a year. Which, to cite its bitter opponents, the Engineering Employers Federation, means that at the current EU:ETS price trajectory, this UK policy intervention will ensure that UK electricity consumers will be paying more than six times as much per tonne of CO₂ as our European competitors. Even so, a wide range of energy intensive companies are being compensated by the Treasury: there are separate compensation schemes for EU ETS and the CCL discount (the only compensation linked to efficiency out of these three), running into hundreds of millions of pounds.

What do households get in compensation for these taxes that increase the costs of the goods they buy? Nothing. The Prime Minister is seeking to alter policies that cause problems for householders. The answer is staring him in the face. Don't mess around with the Energy Company Obligation. Instead recycle much of these energy tax revenues into household energy efficiency, starting with the worst off, to reduce people's bills sustainably and permanently. (11)

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<http://www.theguardian.com/environment/2013/nov/11/cameron-green-levy-devastating-energy-efficiency-industry>
 2. Guardian 19th Nov 2013 <http://www.theguardian.com/environment/2013/nov/19/energy-efficiency-jobs>
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3. Radioactive Waste Siting Consultation

By the time you receive this there may just be enough time to respond to the Government's consultation on how to take forward the Managing Radioactive Waste Safely (MRWS) policy before 5th December. A consultation document with questions asked is available on the Department of Energy and Climate Change website.

More information available here: <http://www.no2nuclearpower.org.uk/news/campaign-update/radioactive-waste-consultation/>

Greenpeace's submission (available on request) called, amongst other things, for the Government to stop ignoring the many calls for a more rigorous and in-depth geological screening programme across England and Wales before *any* further call is made for 'volunteer' communities to consider its MRWS proposals. The Consultation Document proposes to commission some work on local geology during a 'learning' phase. Following that it seems that the next geological investigations, under the revised process, only come when boreholes are sunk: after the community 'right of withdrawal' will have ended.

Calls for the management of wastes in above-ground dry stores at the site of origin of wastes have been ignored by the Government for many years. Its push for disposal, which might only be achieved by forcing a GDF on a community, pays virtually no attention to the siting strategies and technologies needed for interim storage which are going to have to be addressed properly anyway – not least because there needs to be an alternative plan in case delays are encountered.

Surface facilities at a GDF would probably have to include spent fuel stores and/or a packaging plant as well as the GDF itself (or two GDFs). It is estimated that the above and below ground facilities could be 10km-20km apart, possibly even in different local authorities. The removal and disposal of spoil could impact on local authorities other than the 'representative' authority which hosts the GDF. Radioactivity released from a GDF might be projected to arise in a neighbouring authority, even if the surface facilities and GDF are located within the boundaries of a single local authority.

The local authorities' Nuclear Legacy Advisory Forum (NuLeaf) says "*...there may be a case for reviewing the approach to successful programmes overseas where identification of geology preceded identification of volunteer communities...*" Its own research "*...recommended national high level screening to identify areas of geological potential, to be followed by more focused engagement by Government with communities in areas of potential.*" (1)

The new Cumbria Trust (CT), chaired by former Cumbria County Council leader Eddie Martin, says that since all 'engineered solutions' will fail on geological timescales – only the best geological solutions should be considered. It must inevitably follow that a national search for the optimum location for a GDF should be undertaken before seeking community support for such an undertaking. (2)

CT goes on to say that whilst it is recognised that the search for an optimum location for a GDF must be a national priority, it is of considerable concern that the more immediate imperative of safe and secure storage and decommissioning, both at Sellafield and elsewhere, is lamentably



behind schedule and way over budget – facts not lost on the Public Accounts Committee: *“Hazardous radioactive waste is housed in buildings which pose “intolerable risks to people and the environment.”* There needs to be a much greater focus on the safe and secure management of wastes in robust interim stores – not just for the anticipated period of the construction of a GDF but because of the risk of delay or failure in the repository programme.

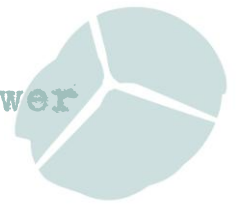
Friends of the Lake District (FLD), which has joined CT, has been urging everyone to respond to the consultation because it is extremely concerned about the new process for selecting a site. The decision-making process sidelines the county councils' waste and strategic planning expertise, lacks independent evaluation and it fails to truly engage with all relevant affected groups, organisations and communities, including town and parish councils. The FLD response to the consultation highlights that the proposed decision-making process represents a step backwards, with fundamental changes needed to gain public confidence and trust. (3)

FLD wants to see a broad membership National Commission to oversee the whole process, determining which areas go forward based on suitable geology and other safety and environmental conditions. It is absolutely essential that the identification of safe and suitable geology conditions comes before the identification of volunteer communities. It goes on to say that the local decision making body should be truly representative of all the community interests, including county councils, parish and town councils and other affected organisations; there should be a legally binding, continuous Right of Withdrawal at any stage; and any intrusive borehole investigations, surface infrastructure or the GDF itself should not be permitted within, or adversely affect, national and international protected areas, such as National Parks, Areas of Outstanding Natural Beauty, World Heritage Sites or Natura 2000 sites.

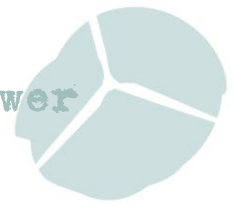
Meanwhile CT has produced a briefing on claims that a GDF would create a vast number of jobs and bring economic wealth to West Cumbria. CT has analysed the plans and compared them with international experience of building a repository to identify the types and likely number of jobs that would be created. The long term employment from the repository is likely to be in the region of 200 workers by comparison with equivalent operations abroad, i.e. those who are not trying to sell the scheme to Cumbrians. This is similar to a large supermarket. (4)

In a letter to CT the National Trust expresses its strong opposition to the creation of a geological disposal facility in the Lake District. The National Trust manages a fifth of the Lake District National Park area and says it will oppose an underground nuclear waste store or seriously intrusive testing in the Lakes. The National Trust says it believes that the decision about where to store nuclear waste is one of national significance that must be made on the basis of the best information. The starting point should be geological and environmental suitability. Robust, broadly-based and transparent public consultation should be a major part of the decision-making process. (5)

Cumbria Tourism's response said *“a thorough assessment of the geological suitability for a GDF should take place in advance of seeking volunteer communities. This should identify parts of the UK where geological conditions are broadly suitable and avoid disruptive challenges and the loss of confidence in the later stages of the process.”* (6) It also said it seems perverse that the County Council should be excluded from the decision making process.



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1. NuLeaf Briefing Paper October 2013
http://www.nuleaf.org.uk/nuleaf/documents/BP_24_Review_of_the_Siting_Process_for_a_Geological_Disposal_Facility.pdf
 2. Cumbria Trust's Response, November 2013 <http://cumbriatrust.wordpress.com/cumbria-trusts-response/>
 3. Friends of the Lake District 19th Nov 2013
<http://www.fld.org.uk/proposed-underground-nuclear-storage-facility-process-flawed.html>
 4. Cumbria Trust 4th Nov 2013 <http://cumbriatrust.wordpress.com/the-jobs-myth/>
 5. Letter from National Trust to John Wilson, Cumbria Trust 26th November 2013.
 6. Cumbria Tourism: Response to the government's consultation on the siting process for a geological disposal facility. <http://mediafiles.thedms.co.uk/Publication/CU-CTB/cms/pdf/Cumbria-Tourism-Executive-Board-Response.pdf>



4. Sellafield – rising costs and delays

The Sellafield review of performance produced by accountants KPMG for the Nuclear Decommissioning Authority (NDA), and obtained through the Freedom of Information Act by Dr David Lowry, has now been released to the wider public by the NDA. (See “Sellafield – an Appalling Waste of Money”, NuClear News No.56)

KPMG provides data an independent review of performance during the first five years on the contractual arrangements with Nuclear Management Partners. It was commissioned by the NDA to inform its decision on contract extension. The report does provide independently collated performance data but does not provide advice to the NDA. (1)

KPMG say the £70bn project to decommission Sellafield is more than a decade behind schedule. Nine of the 11 biggest projects to make Sellafield safe, including building a storage facility for radioactive sludge, are £2bn over budget. Seven will complete late, with a combined delay of eleven and a half years. The expansion of a huge waste processor, Evaporator D, is now expected in February 2016, a year and nine months later than planned.

Some of the issues raised in the report include:

- Magnox reprocessing output has not met the Contract Baseline and has been inconsistent when compared year on year, with annual output falling 36% to 386 teHM in 2012/13 from 2011/12.
- The Annual vitrification rate has not met the Contract Baseline, with the exception of 2011/12. Annual outputs have also fluctuated, and were 25% below plan in 2012/13
- THORP reprocessing has increased since 2006/07, meeting the target in 2011/12 but falling significantly below the target in 2012/13.
- Schedule performance is behind Plan across both major and other projects. (Major projects are those which cost more than £50m and are of major strategic performance). It is the major projects which are furthest behind.
- Spending on both major and other projects is over budget Overspend on major projects of £49 million represents 44% of total project overspend but represents 26% of budgeted cost
- The estimated total lifetime costs of Evaporator D as at May 2013 had increased by £243m, from £398 million to £641m, equivalent to a 61% increase. The schedule has also slipped by 1 year and 9 months.
- One project known as Separation Area Ventilation has increased in cost by 90% from £120m to £229m, and it is three years late.
- Across the 7 major projects within Legacy Ponds and Silos area, 4 have experienced schedule extensions since the introduction of the Performance Plan. The Silos Direct Encapsulation Plant is now expected to be three and a half years late; The Box Transfer



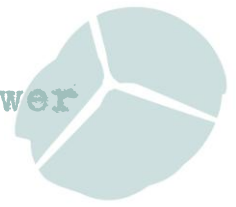
Facility 1 year and 10 months late; the Pile Fuel Cladding Silo, 10 months late and the Buffer Sludge Packaging Plant 5 months late. Legacy Ponds and Silos major projects have increased in costs by £1.2bn.

The bill for cleaning up Sellafield will rise even higher than its current estimated level of £70bn, according to sources close to the project. Private sector managers face a grilling by the House of Commons Public Accounts committee in December. *The Guardian* says the operators are convinced they are still "not at the top" of the cost curve. The cost of decommissioning the Calder Hall reactor and operating the magnox fuel reprocessing plant have been rising steeply, but the biggest task comes from "ponds" and "silos" filled with old equipment and deteriorating, highly toxic waste. Those engaged in the clean-up are still some way from knowing exactly what is in the storage facilities. "*Record-keeping in the past was clearly not what it should have been,*" said one.

But the appearance of Nuclear Management Partners (NMP) in front of the Public Accounts Committee will be interesting. The political temperature has been raised because the NDA has agreed to give NMP a further five-year contract despite its performance being fiercely criticised in KPMG's recent report, which was not initially provided to the committee. Senior executives will be asked to comment on how £6m of bonuses came to be shared out among NMP bosses over three years and why the consortium paid back £100,000 in expenses that had been wrongly claimed. (2)

Meanwhile Sellafield has saved over £1m of taxpayers' money by re-using fuel skips from another site, rather than buying new skips. Some 42 redundant Magnox skips have been saved from being broken up at Chapelcross and are instead being transported to Sellafield to be used for shipping waste out of the Pile Fuel Storage Pond (PFSP). (3)

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1. NDA 13th Nov 2013 <http://www.nda.gov.uk/news/kpmg-report-on-sellafield-performance.cfm>
 2. Guardian 1st Dec 2013 <http://www.theguardian.com/environment/2013/dec/01/sellafield-nuclear-clean-up-cost-rises>
 3. Nuclear Energy Insider 13th Nov 2013 <http://analysis.nuclearenergyinsider.com/supply-chain/sellafield-saves-uk-taxpayers-%C2%A31m-reused-skips>



5. Nuclear subsidies – no valid justification

Following the UK Government's announcement of huge public subsidies for the proposed Hinkley C nuclear power station, Energy Fair has called on EU Commissioner Almunia to open a formal investigation into breaches of competition law. (1)

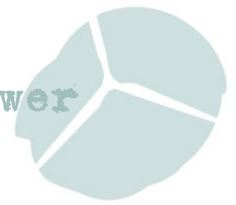
According to *The Telegraph*, the European Commission is close to concluding that Britain's nuclear programme at Hinkley Point breaches EU state aid rules and may have to be revised, a move that could lead to long delays and even cause the complex deal to unravel. The EU competition directorate is said to be examining a string of subsidies tied to the Government's £16bn agreement with French groups EDF and Areva as well as China's General Nuclear Power to build two new generation EPR reactors. Sources in Brussels say the chief concern is a £10bn loan guarantee for the construction of the plants, insurance against a meltdown, help with decommissioning costs and the inflation-linked "strike price" of £92.50 per megawatt hour for 35 years. The directorate is expected to issue an initial verdict in January, paving the way for a broader inquiry. (2)

Energy Fair says there is no valid justification for nuclear power subsidies. They divert resources from other options that are altogether better and cheaper. Nuclear power is a mature technology that should not require any subsidy. Subsidies are for newer technologies that are still finding their feet commercially. Contrary to what the UK government suggests, the group argues that nuclear power is a hindrance, not a help, in ensuring security of energy supplies.

Subsidies for nuclear power have the effect of diverting resources away from technologies which are cheaper than nuclear power and altogether more effective as a means of meeting our energy needs and cutting emissions. In terms of competition within the EU, state aid for nuclear power in the UK is entirely at odds with the coming single market for electricity in the EU and with the principle that there should be free movement of goods and services throughout the region. It is bad for the development, throughout Europe, of the good, effective alternatives -- renewables with conservation of energy -- which are ready to go, cheaper than nuclear power, and very much quicker to build.

Sweden will not follow Britain's example of offering state guarantees to fund the construction of new plants, even though it is hoping to revive its nuclear industry. Sweden's biggest power group Vattenfall had touted Britain's price guarantee system to help companies commit to build new nuclear power plants in a market with low power prices, but the Swedish Energy Minister Anna-Karin Hatt said: *"We won't address any direct or indirect subsidies for new nuclear power production in Sweden, which means that we will not introduce any feed-in tariff for nuclear. Nuclear in Sweden has to stand on its own, it has to bear its own cost, it has to bear its insurance cost as well as the cost for handling the waste after the uranium has been used,"* she said.

Hatt said the European Commission should examine any possible distortion to competition in the common EU market. *"I won't judge on what kind of choices Great Britain makes, that's an issue for the British government and the people that have appointed them. But it is very important that the Commission looks into the issue,"* she said. (3)



Meanwhile the UK government has been urged to be more honest about the levels of subsidies given to energy companies. The House of Commons Environmental Audit Committee says ministers should admit they are already providing £12bn of annual subsidies to fossil fuel operations and windfarms while lining up more support for shale gas and nuclear. The committee's report on energy subsidies says the chancellor's autumn statement later this week is an ideal chance to provide a "*clear and comprehensive analysis of energy subsidies in the UK*". Its biggest criticism is over ministers' insistence that the deal agreed by the Treasury and EDF to fund the construction of a new nuclear power plant at Hinkley Point in Somerset is not a subsidy. "*New nuclear is being subsidised and the coalition should come clean and admit it,*" said Walley. "*The government cannot escape that clear fact by talking about 'support mechanisms' and 'insurance policies' instead of 'subsidies'.*" (4)

Nearly £8m was spent on Government advisers to broker the Hinkley deal. The lawyers Slaughter and May did best of the five consultants that spent 18 months in negotiations with EDF. The legal giant was handed a fee of £2.76m in October. Paul Flynn, the Labour MP for Newport West, uncovered the fees in a Parliamentary answer to one of a series of questions he has asked the Government. He argued that the consultants' fees were "definitely excessive and they stink like a rotting fish's head". Other consultants included KPMG, one of the Big Four UK accountants. It was paid more than £2.1m, while the investment bank Lazard took home £1.65m. Leigh Fisher Associates, a management consultant to the infrastructure industry, was the next best paid at £1.37m. The last adviser, Willis, received only £16,575. There could be more bumper paydays to come, as the Government still has to steer the deal through the European Union. (6)

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1. Ecologist 15th Nov 2013
http://www.theecologist.org/blogs_and_comments/commentators/2160503/nuclear_subsidies_open_letter_to_commissioner_almunia.html
 2. Telegraph 1st Dec 2013
<http://www.telegraph.co.uk/finance/newsbysector/energy/10487375/Hinkley-Point-deal-under-threat-from-EU-ruling.html>
 3. Reuters 20th Nov 2013
 4. <http://www.reuters.com/article/2013/11/20/uk-sweden-nuclear-idUKBRE9AJ00820131120?irpc=932>
 5. Guardian 2nd Dec 2013 <http://www.theguardian.com/business/2013/dec/02/government-told-come-clean-energy-subsidies-fuel-poverty>
 6. Independent 23rd Nov 2013 <http://www.independent.co.uk/news/business/news/exclusive-consultants-pocket-8m-in-fees-for-new-uk-nuclear-plant-in-hinkley-8958513.html>



6. Nuclear Regulation

The Office for Nuclear Regulation (ONR) has highlighted five sites in its 2013 annual report which need the most regulation because of safety problems: Sellafield, Aldermaston, Burghfield, Devonport & Dounreay. These sites require an “*enhanced level of regulatory attention*” because of the radioactive hazards on the sites, the risk of radioactive leaks contaminating the environment around the sites and ONR’s view of the operators’ safety performances. Sellafield was rated unacceptable in one inspection because a back-up gas turbine to provide power to the site in emergencies was “at imminent risk of failure to operate” because of severe corrosion. “Failure would reduce the availability of nuclear safety significant equipment, and also potentially injure or harm the workforce,” says ONR. The most serious safety problem at any nuclear site in the last three years occurred at Aldermaston in 2012. The discovery of corrosion in structural steelwork caused the closure of a top secret plant making enriched uranium components for nuclear warheads and fuel for nuclear submarines. (1)

ONR says: “*We face significant technical challenges as a result of the operating environment. There are legacy radioactive waste facilities at Sellafield that do not meet modern engineering standards for nuclear plant. Regulation of those facilities is our top priority ... The civil nuclear reactor fleet is ageing, which presents challenges in ensuring that reactor plant continues to meet appropriate safety standards.*” (2)

Meanwhile ONR and the Environment Agency are making progress on preparations to start the assessment of the Hitachi-GE’s advanced boiling water reactor design. The timescale of this is largely dependent on Hitachi-GE’s plans to prepare the necessary safety, environmental and security documentation and submit them to ONR and the Environment Agency. This should allow us to complete our preparations and then start our assessment early in January 2014. This assessment is expected to last around four years. (3)

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1. RobEdwards 5th Nov 2013 <http://www.robbedwards.com/2013/11/five-nuclear-sites-with-most-safety-problems-named-by-government-watchdog.html>
 2. ONR 5th Nov 2013 <http://news.hse.gov.uk/onr/2013/11/chief-nuclear-inspectors-report-published/?ebul=gd-nuclear&cr=01/nov-13>
 3. ONR 5th Nov 2013 <http://www.hse.gov.uk/nuclear/documents/2013/quarterly-news-july-september-2013.pdf?ebul=gd-nuclear&cr=02/nov-13>



7. Fukushima and Health

Former leader of Radiation Protection Programme at WHO Keith Baverstock has attacked those who insist there will be practically no health consequences from Fukushima. He says nuclear propagandists insist there will be practically no health consequences from the accident, but they misrepresent the evidence, insisting that at doses below 100 millisieverts [mSv] risk can be neglected. This, as the study of the survivors of the atomic bombings in Japan has shown, is not the case: risk is proportional to dose from a threshold at zero dose to 2 Sv. This misrepresentation permits a policy of indefinite duration, endorsed by the International Atomic Energy Agency (IAEA), that allows children to live with an annual external dose up to 20 mSv and which I calculate would increase the lifetime cancer risk of a child by up to 7% over a decade. (1)

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1. Guardian 25th Nov 2013 <http://www.theguardian.com/environment/2013/nov/25/nuclear-regulation-post-fukushima>



8. Offshore wind in trouble?

Ed Davey has promised to announce "major investments" in offshore wind soon, by trade body Renewable UK has been warning that a clear commitment is needed in the Chancellor's Autumn Statement if investment is to be mobilised. (1)

The Energy and Climate Change Secretary told Parliament that the country's offshore wind push has not hit the buffers in the wake of RWE pulling out of the £4bn Atlantic Array wind farm project in the Bristol Channel. RWE blamed technical difficulties for the decision, but the move sparked speculation that political uncertainty arising from the current row between the government and Labour over energy policy and "green levies" was undermining renewable energy investor confidence. There are also mounting concerns across the offshore wind industry that the level of support being proposed by the government for the second half of the decade is insufficient to drive large-scale investment.

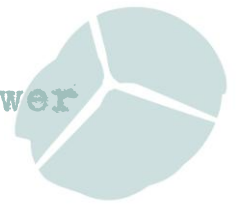
But Davey insists that interest from developers in signing contracts for new projects has been far higher than expected. Aside from RWE's withdrawal from the Atlantic Array, Centrica's commitment to its 580MW Race Bank offshore wind farm (off the Wash) (2) is rumoured to be wavering, while SSE and RWE trimmed the size of their proposed Galloper offshore wind farm by a third earlier this year. Moreover, planned investment in new turbine factories from a number of manufacturers is continuing to hang in the balance.

A new report written by Charles Ogilvie, former adviser to Climate Change Minister Greg Barker, urges the government to commit to installing a minimum amount of offshore wind capacity through the Levy Control Framework, the government's budget for spending on clean energy, and raising subsidy levels for the period between 2017 and 2020.

Ogilvie said that while technology costs are falling, the planned drop in payments via the contracts for difference mechanism from £155 per megawatt hour for projects coming online in 2014/15 to £135/MWh for those projects completed in 2018/19 is too steep and will severely hamper investment. He suggests a smaller decline in support levels through to 2020, whereupon subsidies could fall more rapidly as the industry starts to exploit greater economies of scale.

Dong Energy says it is "extremely difficult" to make investment decisions in the UK because energy was being treated as a "political football". Political rows over energy policy will leave Britain "having a debate in the dark" as investors are spooked from building new power plants. (3)

In 2009 the Government announced that 32GW of offshore wind would be deployed "by the early 2020s", but a few years later this had fallen to 18GW. Then this year with the unveiling of the strike prices in the Energy Bill, the Government said it was now looking at somewhere between 8GW and 16GW. Last week, another government document revealed DECC was predicting the lower end of that range, showing 8.01GW of offshore wind by 2020, rising to 8.41GW if gas prices are high and falling to 7.81GW if they are low. Given that we already have 3.6GW in the water, these levels essentially require relatively limited expansion over the next six years, particularly when set against the original goals. Industry insiders have warned government that the proposed strike prices demand virtually unachievably fast cost reductions. While the initial £155/MWh in 2014/15 would be



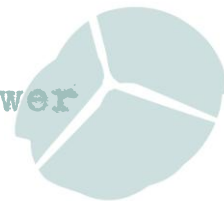
sufficient to secure investment, many fear the steep 10 per cent degeneration in the years that follow may be too much too fast. If the planned levels are confirmed this could "kill the industry dead". (4)

Meanwhile five floating turbines, which will hopefully cut the cost of offshore wind, have been given the go-ahead by the Crown Estate. The Buchan Deep project will see 30 MW installed by the Norwegian oil company Statoil off the coast of Aberdeenshire in 100 metres of water.

Researchers at Europe's largest solar research center have updated their cost curves for wind, solar, power from biogas, and different types of coal power. The findings show that new nuclear power in the UK will be more expensive than practically all solar and wind power by the time the plant goes online. (6)

In Europe, Germany is arguing for a 2030 renewable energy target, but Britain opposes this and says that countries should be allowed to meet their share of carbon reduction targets by whatever means they choose. Britain, of course, wants the flexibility to focus on cutting carbon dioxide emissions by building more nuclear power stations, rather than by installing more renewables. (7)

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1. Business Green 29th Nov 2013 <http://www.businessgreen.com/bg/analysis/2309933/davey-says-major-offshore-wind-investments-coming-soon>
 2. See <http://www.4coffshore.com/windfarms/race-bank-united-kingdom-uk18.html>
 3. Telegraph 12th Nov 2013 <http://www.telegraph.co.uk/finance/newsbysector/energy/10445175/Political-rows-over-energy-will-leave-Britain-debating-in-the-dark.html>
 4. Business Green 18th Nov 2013 <http://www.businessgreen.com/bg/analysis/2307270/is-the-uks-offshore-wind-dream-sinking-fast>
 5. Observer 24th Nov 2013 <http://www.theguardian.com/environment/2013/nov/24/windfarms-float-on-sea-greener-future>
 6. Renewables International 15th Nov 2013 <http://www.renewablesinternational.net/renewables-becoming-competitive-with-conventional-power/150/537/74751>
 7. Times 22nd Nov 2013 <http://www.thetimes.co.uk/tto/environment/article3928640.ece>



9. Community Energy

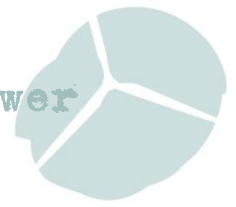
Writing in the *Morning Star*, former Labour MP Alan Simpson says community energy projects are transforming the energy sector across Europe - but thanks to the faithless coalition Britain is being left behind. He highlights *The Dancing Ladies of Gigha* community-owned wind turbines on a tiny Scottish island. What makes them noteworthy is that, as an alternative to laying additional and expensive new cabling to the mainland, the community are constructing a 75,000-litre battery store for up to 100 kilowatts of their own electricity. This isn't a lot, and doesn't compare with storage experiments in Australia that hold up to three megawatts of electricity. But it will provide backup power to the island for up to 12 hours.

By 2030 there could be five million solar roofs, 10 million heat pumps and up to 30 million electric vehicles. All will want to feed into, as well as draw from, the energy grid. DECC may want to domesticate the public but the sheer pace of technology change will emancipate the energy sector in ways that are beyond the power of Big Energy to resist. Britain's tragedy lies in the absence of a leadership willing to drive this revolution. Our energy debate, and what passes for "consultation," is a hostage to smaller minds. (1)

The popularity of on-site renewable energy generation is growing among businesses. On-site generation by UK businesses increased by 53% in 2012 alone, with almost 90% of that coming from solar and wind. And the motivation now is one of energy security. According to the latest DECC figures, the annual average price of gas and electricity (including the climate change levy) has increased by 121% and 93% respectively since 2002 for non-domestic customers. Meanwhile costs of renewable technologies have gone down, performance has improved, plus incentives and funding structures such as feed in tariffs (FITs), Renewable Obligation Certificates (ROCs) and Power Purchase Agreements (PPAs) have come in. (2)

According to the Nuclear Free Local Authorities, many local councils, responsive to those severely affected by fuel poverty, want to see a microgeneration revolution and the opportunity to develop local energy schemes for the local community. Instead of a big centralised renationalisation of energy, which isn't likely to happen, government should be encouraging local councils, parish councils, schools, businesses and communities to take control of their own energy needs. A co-ordinated approach of energy efficiency, community consultations and a wide renewable energy mix can power our communities in a far more efficient and responsive way than a £16bn nuclear power station ever will.

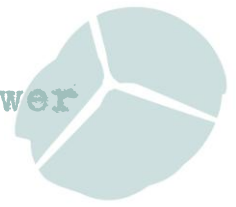
A major new study for the Scottish Government reports that as much as a third of the heat needed to keep Scotland warm could be provided by tapping geothermal energy from old coal mines across the central belt. Warm water piped up from abandoned mine shafts between Glasgow and Edinburgh and in Ayrshire and Fife could help heat many thousands of homes and other buildings for decades. They are urging ministers to embark on an ambitious attempt to make geothermal energy a major new source of clean, renewable power within a few years. Water that has flooded the hundreds of disused mine shafts that underlay large areas of the Central Belt is heated by the warmth of the Earth. The study recommends a series of actions by Scottish ministers in the next three years, including the development of a national geothermal energy strategy. It suggests two major new "demonstrator" projects, at the Clyde Gateway in



eastern Glasgow and at Shawfair in Midlothian, by 2016. It points out that two small geothermal schemes in Scotland that tap the warmth of mine water have been running since 2000. One is at Shettleston in Glasgow and the other at Lumphinnans in Fife, each serving fewer than 20 homes. (4)

Meanwhile, Brighton Energy Coop has achieved the amazing feat of raising £280,000 for new solar PV projects. (5)

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1. Morning Star 16th Nov 2013 <http://www.morningstaronline.co.uk/a-30b3-Energy-for-tomorrow>
 2. Guardian 18th Nov 2013 <http://www.theguardian.com/sustainable-business/blog/business-leading-way-off-grid-energy>
 3. Guardian 18th Nov 2013 <http://www.theguardian.com/environment/2013/nov/18/microgeneration-renewable-energy>
 4. Herald 17th Nov 2013 <http://www.heraldscotland.com/news/home-news/water-from-coal-mines-could-heat-our-homes.22719673>
 5. Brighton Energy Co-op 26th Nov 2013 <http://www.brightonenergy.org.uk/2013/11/bec-raises-280000-5-weeks-hits-first-target-share-offer-extended/>



10. NuGen and Horizon updates

A Korean nuclear company that has been involved in a domestic safety scandal is close to becoming a major investor in the UK. Korea Electric Power, or Kepco, is in talks to join the NuGen consortium, which has an option to build a reactor near Sellafield. Last month, Korean authorities said that after a five-month investigation, it had ascertained that 277 of 22,000 documents related to safety tests on parts at 20 reactors had been faked. They said they had indicted 100 people, including senior executives at state-run energy companies, on corruption charges. These included a former chief executive at Korea Hydro and Nuclear Power (KHNP) and a vice-president of Kepco. The scandal has cast a pall over South Korea's international ambitions for its nuclear industry. The country aims to become the world's third-largest exporter of nuclear technology by 2030 and sell 80 reactors worldwide over the next 20 years. A key milestone came in 2009, when it unexpectedly won a \$20bn deal to sell nuclear plants to Abu Dhabi. (1)

Westinghouse Electric Co. is expected to seal a deal to take over Iberdrola 50% stake in the U.K. nuclear consortium NuGeneration Ltd. by late January or early February. NuGen will likely need to ask the U.K. government for an extension on its option on the land where it wants to build the new power station as it is unlikely to meet a deadline to submit a planning application for it before the end of 2014, according to people in the industry. Westinghouse also needs to get its AP1000 nuclear reactor licensed for use in the U.K., and that process could take several years. (2)

The Hitachi owned company Horizon Nuclear Power has opted to build fewer nuclear reactors at Wylfa. This means capacity will be 1.3GW lower than it might otherwise have been. Hitachi bought Horizon from RWE npower and E.ON last year and said at the time it planned to build two to three Advanced Boiling Water Reactors (ABWR) at each of the two proposed sites - Wylfa in Anglesey and Oldbury in Gloucestershire. Horizon has now announced only two of the three 1.3GW reactors will be built at Wylfa. (3)

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1. FT 19th Nov 2013 <http://www.ft.com/cms/s/0/2c9c490e-510e-11e3-b499-00144feabdc0.html>
 2. Wall Street Journal 19th Nov 2013
<http://online.wsj.com/news/articles/SB10001424052702304439804579208853157712072>
 3. Energy Live News 20th Nov 2013 <http://www.energylivenews.com/2013/11/20/horizon-opts-for-fewer-nuclear-reactors-at-welsh-plant/> and Construction News 19th Nov 2013
http://www.construction.co.uk/construction_news.asp?newsid=172369



11. Nuclear waste – move it, dilute it and disperse it

The Nuclear Decommissioning Authority (NDA) has published its preferred options for dealing with fuel element debris (FED) and intermediate level waste (ILW) at its Magnox sites in England. This is a preliminary preferred options paper and comments are welcomed until 31 January 2014. This follows the publication of a credible options paper for comment in May this year. (1)

The NDA is proposing to transfer ILW from Oldbury to Berkeley in Gloucestershire, and from Dungeness in Kent to both Bradwell and Sizewell in East Anglia. Fuel Element Debris from Hinkley Point A and Oldbury would be treated at a new dissolution plant at Hinkley, and treatment of FED from Sizewell A would be transferred for treatment to the existing plant at Dungeness A. (2)

This could mean that between 2014 and 2018, 183 containers of waste could travel by train to Southminster and then by lorry to Bradwell. The NDA says waste is expected to be removed from Bradwell after 2040, and sent to a Geological Disposal Facility. (3)

Fuel Element Debris from Sizewell could be transported in the opposite direction to be treated in acid at the Dungeness Magnox Dissolution Plant. 60 lorry loads would transport the 84 tonnes of Sizewell A fuel debris to the railhead for transfer to Dungeness. (4)

The NDA says it would save £45m by moving waste for storage between Sizewell A in Suffolk, Bradwell in Essex and Dungeness A in Kent. The authority said there would be 185 lorry movements during the process. (5)

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1. NDA 14th Nov 2013 <http://www.nda.gov.uk/news/preferred-options-facilities-magnox-ltd.cfm>
 2. Optimising the number and location of Interim Intermediate Level Waste (ILW) storage facilities on Magnox Limited and EDF Energy sites and FED Treatment (Dissolution) Facilities in Magnox Limited, NDA November 2013 <http://www.nda.gov.uk/documents/upload/Optimising-the-number-and-location-of-facilities-on-Magnox-Ltd-and-EDF-Energy-Sites-Preferred-Option-for-Comment-November-2013.pdf>
 3. Essex County Standard 7th Nov 2013 http://www.essexcountystandard.co.uk/news/localnews/10786436.Burnham_Nuclear_waste_could_be_transported_through_villages/
 4. East Anglian Daily Times 18th Nov 2013 http://www.eadt.co.uk/news/sizewell_radioactive_waste_could_be_transported_to_sizewell_a_from_kent_1_3010800
 5. BBC 18th Nov 2013 <http://www.bbc.co.uk/news/uk-england-suffolk-24989852>