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#### **1. Energy debate takes a wrong turn**

Since Chancellor George Osborne's attack on green policies at the Tory Party Conference for "*piling costs on the energy bills of households and companies*", (See "Energy Costs" NuClear News No.33) attacks on renewable energy have continued. WWF says it is really worried at how the energy debate is currently playing out in the media. Renewable energy and green policies in general are being blamed on a daily basis for rising energy bills. An increasingly vocal lobby is calling on the government to cut support for renewable energy, abandon decarbonisation targets and embrace new forms of fossil fuel like shale gas. (1) Guy Newy of the right-wing think tank, the Policy Exchange, has called on Osborne to axe to the 2020 renewable energy target. He says it makes it hugely more expensive to meet carbon targets than would have been the case without it. (2)

Friends of the Earth (FoE) hit back at claims that "green taxes" were causing energy bills to rise with a report suggesting investment in fossil fuel plants rather than renewables would leave UK households paying the increasing costs of coal and gas to make electricity. According to the report, electricity bills rose by 30% between 2000 and 2010, while gas bills rose 78%. The rises were largely due to increased costs of coal, which rose by 71%, and natural gas, which rose 90%, in the decade. If gas and coal costs rise this decade by the same amount as they did between 2000 and 2010, an additional £8bn a year would be needed by 2020 to generate electricity, costing the average householder an extra £300 compared with lower costs if the UK met its targets to boost renewables. (3)

FoE is calling for the government to fully investigate the root of energy price hikes, which have driven thousands of UK consumers into fuel poverty. (4) Executive Director, Andy Atkins says it's the UK's high dependency on increasingly expensive fossil fuels, which is the main reason for sky-high household fuel bills. Unless we change direction, things are set to go from bad to worse. FoE wants to see an end to the dominance of the big six and a fresh approach to the way our energy is

produced. (5) Chris Huhne seems to agree. He told the *Today* programme that the question is how we get off the "fossil fuel escalator". Tory MPs never miss an opportunity to attack the government's green measures for raising energy prices. But the truth is that just £20 of the £300 increase in bills has been caused by the UK's renewable obligations. The bulk of the increase has been caused by the dramatic rise in the price of gas and other fossil fuels. The answer, Huhne suggests, is to develop our own sources. (6)

Between 2004 - when Britain became a net importer of gas - and 2009, the gas price for electricity generation rose by 84%. Over the same period, electricity bills went up by 63%. Whilst environmental policies have a cost, that cost has represented to date a small proportion of consumer bills. According to the Department of Energy and Climate Change (DECC), climate related policies represented just 7% (or £73) of a consumer's average energy bill in 2010 - and the proportion that is linked to supporting renewable energy is even smaller because climate policies include other measures such as the EU Emissions Trading Scheme and energy efficiency measures.

Now the prospect of cheap gas is being held out as the way to reduce energy prices, rather than continuing to develop renewables and implement energy efficiency measures. Over the last decade shale gas has transformed the market in the US, according to *The Sunday Times*. It is so abundant that prices have collapsed. And there are thought to be trillions of cubic metres of it in Britain, including 5.6 trillion cubic metres in the Blackpool area. The shale — fine-grained rock formed from compressed mud and other deposits, including dead creatures that collected on the seabed when Britain was covered by water 320m years ago — extends from near the Scottish border to Derbyshire, with a younger layer from the East Midlands all the way to the south coast. Until recently it was too expensive to tap. But a technological revolution is now poised to see shale gas exploited in Britain. (7)

Charles Clover, writing in *The Sunday Times*, said the truth is that the thing most likely to put up consumers' bills over the next decade is Europe's target of 20% of all energy consumption coming from renewables by 2020. This is calculated to add about 30% to customers' bills. It looked sensible to hedge our bets against ever-spiralling gas prices with clean coal, offshore wind and nuclear power but that was before the shale gas revolution. The discovery of shale gas in Britain and Poland — and new discoveries in the northern North Sea — means there could soon be a credible, alternative way of meeting Britain's 2050 environmental targets at lower cost, by moving from coal to gas. (8)

Shale gas is more challenging to extract than natural gas. A mixture of water, sand and chemicals is pumped down the bore at high pressure to create small fractures in the rock. When the pumping stops, the sand keeps the small fractures open and the gas starts to flow. The process is called hydraulic fracturing or "fracking". The quantities are so large some experts believe it is time to rewrite the rule book on energy. According to the International Energy Agency, the world has enough unconventional gas to last for 250 years.

The arrival of commercial shale gas on world markets could make nuclear power and offshore wind look very expensive, according to Dieter Helm, professor of energy policy at Oxford University. He believes we should rapidly switch to electricity generation by gas, now and develop renewables later. At the global level, he says, the reason carbon emissions keep going up – and why Kyoto has made so little difference – is that coal is the rising fuel; its share has risen from around 25% to nearly 30% during the Kyoto period, and it is a percentage of a growing total. Switching from coal to gas is cheap – and it cuts emissions by roughly half. It doesn't solve the climate change problem in the long run, but it gets emissions down much faster and much cheaper than offshore wind in the short to medium term. (9)

Dominic Lawson, writing in *The Independent*, said it "doesn't take a degree in economics to realise that if the Government is genuinely concerned about rising energy prices and fuel poverty, it should immediately abandon the fatuous and massively subsidised wind-power experiment and instead dash for gas". (10) Christopher Booker in *The Telegraph* said Huhne is condemning us all to fuel poverty.

He argued that the best hope of keeping Britain's lights on is our vast potential reserve of shale gas. Chris Huhne hates this, says Booker, because it offers the prospect of electricity so much cheaper than that from his useless windmills. (11)

Louise Hutchins of Greenpeace says the cheap shale gas brigade are paddling against a tide of expert analysis warning of long-term gas price rises, particularly as demand from developing countries outstrips any new shale gas finds. The costs of nuclear power too have only increased since the Fukushima disaster. It may not fit with Helm's world view, but if we are to bring energy bills under control in the medium term, we need to stop importing ever more expensive gas and start building "fuel-free" renewable energy, where costs are already falling and Britain can gain from jobs and export industry growth. (12)

There is another problem too: carbon. Even the gas power capacity already built and planned is too great if the UK is to meet its legally binding carbon targets, as Huhne has acknowledged. The only get-out clause is capturing and storing the carbon pumped out from these plants, but a promised demonstration plant has yet to get off the government's desk. (13)

Nick Molho, head of energy policy at WWF-UK, said: "*We're extremely concerned by the way in which shale gas is being painted as a 'wonder gas' which will slash energy bills in Britain and help tackle climate change. Shale gas is still a fossil fuel, and a new dash for gas could see global temperatures skyrocket. There's also no evidence that it will have a big impact on energy bills, which have in fact been driven up in recent years by a rising gas price.*" (14)

Given that 80% of the UK's 26.2 million homes already rely on gas for heating and over a quarter of the UK's electricity production capacity already comes from gas plants, is it really sensible to spend large sums of money building a shale gas infrastructure and more gas-fired electricity generating stations when we need to be phasing out the use of fossil fuels before this new infrastructure would reach the end of its economic life. We would be locking ourselves into future carbon emissions for at least the next thirty or forty years when we should be decarbonising electricity supply by 2030.

Until 2020, our options are simple: we can deploy new gas plant, or we can deploy a mixture of gas and new wind generation; these are the only technologies which can be deployed in time and in sufficient quantities. For beyond 2020 the Policy Exchange's alternative to renewables for cutting our carbon emissions by 80% by 2050 depends mostly on the massive expansion of either nuclear power or carbon capture and storage. Gordon Edge of Renewable UK points out that the economics of these technologies are not tested – no nuclear plant has been built in Britain in over 15 years, and CCS does not exist at a commercial scale anywhere in the world. He says shale gas is unlikely to provide much mitigation to consequential price rises. The lesson from the US is that even if large quantities of shale gas are found it doesn't mean that significant quantities can be extracted economically. The cost of extraction rises substantially beyond a few core areas. A second dash for gas could push up our bills by 52% over the next five years, according to Ofgem. Over the same period, a package of green measures would increase bills by 23%. More than that, instead of locking us into imports of gas, it would allow us to build a new domestic industry. Let's learn the lessons of our energy history. (15)

The House of Commons Energy and Climate Change Committee recently argued that the proposal for a weak Emission Performance Standard (EPS) would result in a hectic "dash-for-gas" ahead of the 2015 review. This increases the risk of locking the UK into a high-carbon electricity system and represents a huge gamble on the eventual availability of cost effective Carbon Capture and Storage technology for gas plants. This could pose a severe threat to the achievement of our long-term climate change goals. (16)

The environmental consequences of fracking are unclear. In America some householders found they could set light to their water taps because methane got into the supply, and there are worries about the contamination of ground water by chemicals. France, Switzerland and some US states have banned fracking. In the UK a report carried out for the company which has started fracking operations near

Blackpool, Cuadrilla Resources, admits that recent earthquakes were probably caused by their fracking operations. (17) At Cornell University researchers say that shale is dirtier than coal in the short term, rather than cleaner, and "comparable" in the long term, because the process of "hydraulic fracturing," which is required to extract the gas from shale, emits enough methane to make it dirtier than coal. Methane is a greenhouse gas that is more potent than carbon dioxide but does not last as long in the atmosphere. (18)

- (1) Business Green 25<sup>th</sup> Oct 2011 <http://www.businessgreen.com/bg/industry-voice-blog/2119688/it-stop-blaming-renewable-energy>
- (2) Guardian 12th October 2011 <http://www.guardian.co.uk/environment/2011/oct/12/george-osborne-environment>
- (3) Independent 17<sup>th</sup> October 2011 <http://www.independent.co.uk/environment/green-living/fossil-fuel-energy-bills-to-soar-2371612.html> & FoE Report: The Dirty Half Dozen, Oct 2011 [http://www.foe.co.uk/resource/reports/dirty\\_half\\_dozen.pdf](http://www.foe.co.uk/resource/reports/dirty_half_dozen.pdf)
- (4) Politics.co.uk 17<sup>th</sup> Oct 2011 <http://www.politics.co.uk/news/2011/10/17/new-front-in-battle-against-energy-s-big-six>
- (5) Left Foot Forward 17<sup>th</sup> Oct 2011 <http://www.leftfootforward.org/2011/10/friends-of-the-earth-time-to-end-tyranny-of-big-six-energy-companies/>
- (6) New Statesman 17<sup>th</sup> Oct 2011 <http://www.newstatesman.com/blogs/the-staggers/2011/10/energy-prices-huhne-cameron>
- (7) Sunday Times 23rd October 2011 <http://www.thesundaytimes.co.uk/sto/news/focus/article804586.ece>
- (8) Sunday Times 23rd October 2011 <http://www.thesundaytimes.co.uk/sto/comment/columns/charlesclover/article804055.ece>
- (9) Guardian 18<sup>th</sup> Oct 2011 <http://www.guardian.co.uk/commentisfree/2011/oct/18/energy-price-volatility-policy-fossil-fuels>
- (10) Independent 25th October 2011 <http://www.independent.co.uk/opinion/commentators/dominic-lawson/dominic-lawson-why-wont-huhne-celebrate-our-gas-windfall-2375433.html>
- (11) Telegraph 22<sup>nd</sup> October 2011 <http://www.telegraph.co.uk/comment/columnists/christopherbooker/8843431/Chris-Huhne-condemns-us-all-to-fuel-poverty.html>
- (12) Guardian 23<sup>rd</sup> Oct 2011 <http://www.guardian.co.uk/environment/2011/oct/23/wrong-direction-for-energy-policy>
- (13) Guardian 23rd September 2011 <http://www.guardian.co.uk/environment/damian-carrington-blog/2011/sep/23/cuadrilla-shale-gas-uk-energy>
- (14) Guardian 2nd November 2011 <http://www.guardian.co.uk/environment/2011/nov/02/fracking-cause-lancashire-quakes>
- (15) Guardian 14<sup>th</sup> October 2011 <http://www.guardian.co.uk/environment/2011/oct/14/green-energy-investment-past-mistakes>
- (16) UK Energy Supply: Security or Independence, HoC Energy & Climate Change Committee, Oct 2011 <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmenergy/1065/106502.htm>
- (17) Guardian 2nd Nov 2011 <http://www.guardian.co.uk/environment/2011/nov/02/fracking-cause-lancashire-quakes>
- (18) Blog for clear air, 11<sup>th</sup> April 2011 <http://blogforcleanair.blogspot.com/2011/04/cornell-researchers-shale-gas-at-least.html> See also Climate Change Volume 106, No.4 <http://www.springerlink.com/content/e384226wr4160653>

## 2. Are Green Taxes dragging Britain into fuel poverty?

Channel 4 News' Fact Check says "*there are simply far too many uncertainties about where we will be in 2020 to come to a definitive conclusion on whether the government is right to stick with its targets for renewable energy, and persist with the environmental taxes that are undisputably pushing up bills in the short term.*" If fossil fuel prices go up, then Mr Huhne and his allies in the green lobby will be proved right. If prices are lower than expected, critics like Policy Exchange – who want to scrap renewables targets, use more gas in the short-term and use carbon prices to let the markets find the most cost-effective low-carbon solution – will claim to have won the argument. What we can say now is that green taxes account for less than 10 % of current bills – far less than has occasionally been

reported, but not insignificant. And we also know that Mr Huhne makes some very optimistic assumptions about energy efficiency. (1)

And Fact Check also says there is some evidence that ministers are effectively handing the nuclear industry a public subsidy, despite claiming that the opposite is the case. (2)

- (1) Channel 4 News Fact Check 17<sup>th</sup> November 2011 <http://blogs.channel4.com/factcheck/factcheck-are-green-taxes-dragging-britain-into-fuel-poverty/8242>
- (2) Channel 4 News Fact Check 14<sup>th</sup> November 2011 <http://blogs.channel4.com/factcheck/factcheck-huhne-far-from-clear-on-nuclear/8230>

### **3. Radioactive Waste Consultation Document Approved**

The West Cumbrian Managing Radioactive Waste Safely Partnership Meeting in Egremont on 3<sup>rd</sup> November approved the draft Consultation Document which is seeking views on whether it should recommend to Copeland, Allerdale and Cumbria County Council that they proceed with the process of searching for a nuclear waste dump site in the area. Although the documents for the November meeting can't be found anymore on the website, the draft consultation document can still be found here: <http://www.westcumbriamrws.org.uk/images/MRWS-ConDoc-Draft-26-Oct-2011.pdf> The draft says the consultation closes on 23<sup>rd</sup> March 2012.

### **4. Fuel Poverty**

At the spending review in October 2010 the Government announced it would commission an independent review of fuel poverty, to take a fresh look at the targets and definition and to help focus resources. Sir John Hills was asked in March 2011 to undertake the review. The John Hills review of Fuel Poverty has now been published. (1)

The Hills Fuel Poverty Review found that if just 10% of UK winter deaths are caused by fuel poverty – a conservative estimate it claims – 2,700 people will perish as a direct result of being fuel poor. The report also found that between 2004 and 2009 the "fuel poverty gap" (the extra amount those with badly insulated homes and poor heating systems would need to spend to keep warm) increased by 50% to £1.1bn as a result of rising fuel prices.

Households are considered fuel poor if they need to spend more than 10% of their income on fuel use to heat a home to an adequate standard of warmth, generally defined as 21°C in the living room and 18°C in other occupied rooms. By the end of 2011, 4.1 million households in England are expected to be in fuel poverty. The report found that living in cold homes has a series of effects on illness and mental health, but the most serious is its contribution to Britain's unusually high rates of "excess winter deaths". Hills also found that while it is essential that the energy efficiency of the UK's housing stock is improved, those on low incomes in the worst housing cannot afford to pay for it, so will need help from elsewhere.

The Warm Homes and Energy Conservation Act 2000 stated that fuel poverty should be eradicated "as far as reasonably practicable" by 2016. Michelle Mitchell, charity director at Age UK says: "People are cutting back on heating or food to help make ends meet at a time of escalating fuel prices. This increases the risk of many older people becoming seriously ill. We need more immediate clarity and detail on what help will be available through the [government's proposed] Green Deal, particularly for people on low incomes, and a sensible long-term way of reducing energy." (2)

Derek Lickorish, chair of the Government's Fuel Poverty Advisory Group (FPAG), called the figures for the number of deaths due to fuel poverty a "disgrace". "Insulating the homes of the fuel poor is the only long-term and sustainable solution to solving this problem, but they will need financial help to make this happen and this takes time. Urgent action must start today," he said. (3)

Age UK makes a distinction between deaths directly due to fuel poverty, which Hills says was 2,700 over the winter of 2008/9, and what the charity calls "excess winter deaths" – resulting from illnesses caused or exacerbated by cold, which it says will amount to 200 per day this winter (or more like 18,200 over the three months of winter). It says Hill's report "doesn't measure the scale of the problem". Age UK says "*deaths from hypothermia are rare, but cold weather and poor heating can contribute to deaths caused by circulatory diseases (responsible for 41% of all recorded deaths by natural causes) and by respiratory diseases (13%).*" (4)

- (1) Fuel Poverty: The Problem and Its Measurement, Centre for Analysis of Social Exclusion October 2011. <http://www.decc.gov.uk/assets/decc/11/funding-support/fuel-poverty/3226-fuel-poverty-review-interim-report.pdf>
- (2) Guardian 19th October 2011 <http://www.guardian.co.uk/money/2011/oct/19/fuel-poverty-2700-victims-winter>
- (3) BBC 19<sup>th</sup> October 2011 <http://www.bbc.co.uk/news/business-15359312>
- (4) Guardian 22nd October 2011 <http://www.guardian.co.uk/society/2011/oct/22/older-people-cold-energy-bills>

## 5. Hinkley Application

On the last day of October, the Infrastructure Planning Commission (IPC) received the long-awaited application from EDF Energy for a new nuclear power station at Hinkley Point in Somerset. The IPC must decide whether to accept the application within 28 days of receiving it, i.e. by 29<sup>th</sup> November, and it will publish the application documents shortly thereafter. Acceptance is no mere formality – the IPC has refused to accept one of the seven applications so far made to it. It relates to the quality of the application documents and the pre-application stages rather than the merits of the application. Although the BBC says '*Plans for the station could be published within 28 days, when the public can comment on them*' that is not quite right. The ability to comment on the application is only triggered once EDF Energy publicises the fact that the application has been accepted (if it is). A previous application for a waste incinerator in Bedfordshire was accepted on 26 August 2010, but it wasn't until 7 October 2010 that the promoter publicised the fact. That is the last point at which the timetable is under the control of the promoter - after that it is up to the IPC. (1)

The Stop Hinkley Campaign described the application as "*a dangerous diversion from a genuinely sustainable pathway for the UK's energy needs*". (2)

- (1) Bircham Dyson & Bell Planning Blog 2<sup>nd</sup> November 2011 <http://www.bdb-law.co.uk/blog/anguswalker/291-project-progress-analysis-hinkley-point-application-made>
- (2) Stop Hinkley Press Release 31<sup>st</sup> Oct 2011 <http://stophinkley.org/PressReleases/pr111031IPCannouncement.pdf>

## 6. Non-Nuclear Futures

A new report by WWF says renewable energy could meet between 60-90% of the UK's electricity demand by 2030, and recommends that the government sets a target for that year at no less than 60% for renewable energy generation to provide certainty for investors. (1)

The UK could have an affordable and sustainable power system by taking ambitious action to reduce its demand for electricity, providing stable investment certainty for the renewables industry and moving towards greater interconnection with Europe.

The report, Positive Energy, found that with a strong focus on renewable energy and energy efficiency, it is possible to largely decarbonise the UK power sector and maintain system security without resorting to new nuclear power. (2)

Positive Energy is based on modelling by GL Garrad Hassan (GL GH), who developed six scenarios for the UK's electricity system in 2030. The scenarios differ according to the level of electricity demand and the use of different methods for providing system security – ensuring that there is no risk of 'the lights going out'. All achieve the near decarbonisation of the power sector by 2030, as recommended by the Committee on Climate Change (CCC). All scenarios also make full provision for ambitious increases in electric vehicles (EVs) and electric heating. Energy efficiency and behavioural change lead to the reductions in demand in the ambitious demand scenarios.

In two of the scenarios 61% of electricity demand is met with renewable energy (73GW) – the rest is gas, some with carbon capture and storage. In two others with much more ambitious energy efficiency 62% is met with renewable energy and the rest gas, but this time renewable capacity is only 59GW. In two so-called "stretch" scenarios 87-88% of electricity demand is met with renewable energy.

WWF is also calling for better interconnection and market integration with Europe; if this happens, the report's most ambitious scenarios show that renewables could meet almost 90% of UK electricity demand by 2030. This would create a springboard for the UK to become a net exporter of clean energy to the rest of Europe. High levels of interconnection would also mean that much less new gas-fired capacity would be needed in the UK to ensure system security thus reducing costs and the amount of infrastructure needing to be built, and gas plants also run at higher load factors making them much more economic. WWF warned against over-reliance on gas, as this risks a 'lock-in' to high-carbon infrastructure, which would undermine efforts to reduce emissions and increase reliance on imported and costly fossil fuels.

The report also found that strong support for renewables now can significantly reduce their costs in the future. Affordability and sustainability can work hand in hand, with energy efficiency measures massively reducing costs for consumers. The report shows that ambitious action on energy efficiency could reduce the capital costs of generation and interconnection by up to £40bn by 2030 and that a concerted drive to reduce energy demand in households has the potential to more than offset the costs of meeting renewable energy goals. Failure to commit to a high-renewables future would leave us facing the prospect of dangerous levels of climate change and high energy prices. The opportunity offered by the clean energy revolution is one that we cannot afford to miss.

The report's findings on the potential of renewable electricity are far more ambitious than those put forward by the Committee on Climate Change (CCC) in its Renewable Energy Review in May and by several other studies by the Department of Energy and Climate Change (DECC). However, renewable build rates in the WWF scenarios to 2020 are lower than the government's own forecasts contained in its National Renewable Energy Action Plan and significantly below industry projections on realistic build rates. The difference is that in WWF's scenarios rather than build rates 'falling off a cliff' post 2020, growth is maintained providing long term opportunities for industrial growth.

Cost projections in Garrad Hassan's analysis are drawn from projections by Mott Macdonald, which were used by the CCC in its *Renewable Energy Review*. Mott Macdonald highlights that its nuclear cost projections must be considered to be highly uncertain. It is, therefore, by no means certain that nuclear will be cheaper than renewables.

The report notes that meeting an existing 2020 renewable energy target will increase household bills by 4%, but that this could be more than offset by cuts in usage through better energy efficiency. (3)

- (1) WWF Press Release 25<sup>th</sup> Oct 2011 [http://www.wwf.org.uk/what\\_we\\_do/press\\_centre/?5375/Clean-energy-future-within-our-grasp](http://www.wwf.org.uk/what_we_do/press_centre/?5375/Clean-energy-future-within-our-grasp)
- (2) Positive Energy: How renewable electricity can transform the UK by 2030. WWF Oct 2011 [http://assets.wwf.org.uk/downloads/positive\\_energy\\_final\\_designed.pdf](http://assets.wwf.org.uk/downloads/positive_energy_final_designed.pdf)
- (3) Guardian 25<sup>th</sup> Oct 2011 <http://www.guardian.co.uk/environment/2011/oct/25/uk-renewables-2030-wwf?newsfeed=true>

## 7. No Need for New Nukes

A new report from No Need for Nuclear will show that the evidence given to Ministers, MPs and Parliament, on which they based their decisions in support of new nuclear power stations was false and an incorrect summary of the actual evidence and research carried out within Government. It will show that the repeated claims by the Coalition Government that nuclear power is needed because electricity demand will double (or even triple) by 2050 are also not based on the Government's own evidence and in-depth research. On the basis of the Government's own evidence, electricity generated by nuclear power is the most expensive of all low-carbon technologies, so building new nuclear power stations will mean higher fuel bills. Information given to Ministers was false, and was fed to them by the "Whitehall Machine". What has gone on is nothing less than a corruption of governance.

(1) NoNeed4Nuclear 25th Oct 2011

[http://www.noneedfornuclear.org.uk/index.php?option=com\\_content&view=article&id=66&Itemid=73](http://www.noneedfornuclear.org.uk/index.php?option=com_content&view=article&id=66&Itemid=73)

## 8. A FiT for Efficiency Measures?

There's no dispute that rapidly-rising fuel bills are hitting households hard. But who is to blame for the squeeze? The effect of environmental taxes on current fuel bills has been overstated. The latest figures from Ofgem suggest only about 9% of what we pay for fuel is attributable to green taxes. But according to DECC the cost of electricity will rise by a third by 2020 as a direct result of the government's green policies, however, Mr Huhne actually predicts that bills will be lower in 2020 than they would have been without the environmental measures. He is relying on a rose-tinted vision of Britain being a much more efficient, better insulated place by the end of the decade. But the government's figures only work if there is an expected surge in uptake of home and business insulation schemes by the public. And this also depends on gas prices remaining high.

Right wing critics like Policy Exchange want to scrap renewables targets, use more gas in the short-term and use carbon prices to let the markets find the most cost-effective low-carbon solution. There are too many uncertainties about future prices to know which proposal will produce the lowest prices. But if we are to avoid going down the route of relying more and more on unconventional gas we need to stick with renewable energy targets. But in order to avoid bills going up by up to a third we will have to make sure efficiency programmes actually deliver. (1)

The government's tacit bargain with the electorate is that decarbonisation policies which raise the unit cost of energy will be offset by demand reduction policies such as the Green Deal, yielding a net equal cost to consumers. But the Green Alliance says current policies will not go far enough to encourage people to reduce their electricity use, meaning bills will rise more than they need to. A drive to encourage greater demand reduction could avoid future expenditure of up to £125 billion on new low carbon generation and save consumers at least £35 billion. (2)

A demand reduction feed-in tariff which mirrors the supply-based feed-in tariffs (FiT CfDs) outlined in the electricity market reform white paper, would be a simple change which could deliver a readily understandable mechanism to drive new entrants and competition into the electricity market.

The government's own analysis of the feasibility of its Electricity Market Reform (EMR) assumes significant demand reduction: around 16% compared to business as usual by 2025, although a draft EU Energy Efficiency Directive will require a 35% drop by then.

Evidence suggests that energy efficiency is around three and a half times cheaper per MWh than conventional generation and transmission which, in turn, has historically been much cheaper than low carbon power sources. Even if delivering energy efficiency at scale in the UK is only half the cost of new low carbon generation, just meeting current government goals could save consumers £35 billion.



The Green Deal may be effective at cutting energy demand for heating, but its design is unlikely to deliver significant demand reduction in electricity. This is for several reasons. First, the Green Deal is focused on space and water heating, which are mostly provided by gas. Secondly even if there is significant electrification of heat by 2020 and 2030, by increased uptake of heat pumps increasing the proportion of electricity used for heating, the Green Deal will still not cover the majority of electricity use. In other words the Green Deal cannot deliver a significant reduction in demand for electricity.

Mechanisms like the Carbon Floor Price/EU emissions trading scheme (ETS), Climate Change Levy, Renewables Obligation, and the Supplier Obligation all increase the price of electricity and, as such, should provide an incentive for greater energy efficiency. However, these have not been significant drivers of retail electricity prices, making up around seven or eight per cent of household bills, with most of the near doubling of retail prices since 2004 being due to the rising price of gas.

Unlike those markets which have proved to be successful in delivering demand reduction, such as the Californian electricity market, the UK power market incentivises increasing electricity generation, both at the wholesale level, where power companies earn more as they generate more, and at the retail level, where consumers pay less per unit as their electricity use rises. There is currently no benefit to energy companies in reducing consumer demand as this reduces their sales and profits. Policy-makers assume that economically rational electricity consumers are already incentivised to reduce demand by potential reductions on bills, and that additional funding is unnecessary, but this is not the case.

An effective demand reduction policy needs three things: organisations to assist in reducing behavioural barriers, a steady stream of funding to overcome financial barriers, and policies designed to mitigate misaligned incentives and ensure actual electricity savings. The framework created by the EMR white paper provides an opportunity to address these barriers.

Energy Service Companies (ESCOs) could provide energy saving advice tailored to individual consumers, then implement energy savings and recover the cost from consumer bills. This is justified because the cost of energy reduction is below the cost of procuring new capacity. The government accepts the argument that an unreformed market will not provide adequate incentives for mature low carbon technologies, and that feed-in tariffs designed to reduce exposure to electricity price volatility are required to address this. The same argument applies to demand reduction. Put another way, if rising prices are insufficient to incentivise mature, low carbon power sources such as nuclear, there is no clear reason why they should be sufficient to incentivise demand reduction.

- (1) Channel 4 News Fact Check 17<sup>th</sup> Oct 2011 <http://blogs.channel4.com/factcheck/factcheck-are-green-taxes-dragging-britain-into-fuel-poverty/8242>  
See also Estimated impacts of energy and climate change policies on energy prices and bills, DECC, July 2011 <http://www.decc.gov.uk/assets/decc/what%20we%20do/uk%20energy%20supply/236-impacts-energy-climate-change-policies.pdf>
- (2) Decarbonisation on the cheap: how an electricity feed-in tariff can cut energy costs, Green Alliance, October 2011 [http://www.green-alliance.org.uk/uploadedFiles/Publications/reports/Decarbonisation\\_on\\_the\\_cheap\\_dble.pdf](http://www.green-alliance.org.uk/uploadedFiles/Publications/reports/Decarbonisation_on_the_cheap_dble.pdf)

## **9. New Reactors – more delays**

EDF Energy says it will not set a firm date for completion of its first new nuclear power plant in Britain until it makes its final investment decision at the end of 2012. EDF submitted a 30,000-page planning application to the UK's Infrastructure Planning Commission for Hinkley C and it applied for a site licence and an environmental permit in July. Rivaz said the company will begin preparing the site next spring but it has not yet set a timetable for construction. Existing nuclear plants are performing well and their lifespans could be extended to fill any energy gap, Rivaz said. "*We will deliver it in a timely fashion -- on time according to the construction timetable we will set when we begin -- and in time according to Britain's needs,*" he said. (1)

Dow Jones reported this as a decision to delay the construction of four planned nuclear reactors in the U.K. It said EDF is taking time to evaluate the consequences of delays at the Flamanville reactor in northern France and the Fukushima Daiichi nuclear disaster in Japan. And the company is evaluating whether conditions for the €20 billion investment are met in the UK. EDF was planning to start building Hinkley in 2013, but will now release a new timetable for the project during the autumn. (2)

Les Echos reported that although the UK Government has launched its Electricity Market Reform the crucial points remain unresolved, in particular a guarantee scheme on electricity prices and the financing of decommissioning. Peter Atherton, an analyst at Citigroup, says another key question remains to be addressed: the risk of delay in plant construction, as in Flamanville. (3)

- (1) Reuters 27<sup>th</sup> October 2011 <http://uk.reuters.com/article/2011/10/27/uk-nuclear-new-build-edf-idUKTRE79Q4YT20111027>
- (2) Dow Jones 28<sup>th</sup> Oct 2011 <http://www.foxbusiness.com/industries/2011/10/28/edf-delays-construction-4-nuclear-reactors-in-uk/>
- (3) Les Echos 28<sup>th</sup> Oct 2011 <http://www.lesechos.fr/entreprises-secteurs/energie-environnement/actu/0201718170685-nucleaire-edf-suspend-le-calendrier-de-ses-projets-d-epr-au-royaume-uni-240900.php>

## 10. Emergency Planning

The government has been urged to review the adequacy of planning controls over homes and businesses in the vicinity of nuclear power stations to safeguard them against accidents. The Nuclear Emergency Planning Liaison Group, which brings together bodies responsible for off-site civil nuclear emergency planning, should look beyond the detailed emergency planning zones (DEPZs) designated immediately around nuclear sites to "improve resilience" in the face of more serious accidents. It comments: "*A site that was acceptable for emergency planning purposes when it was first established may not continue to be acceptable unless planning controls limit population growth in the site's locality, or action can be taken to ensure that off-site emergency countermeasures can cope with the changed demographic.*"

Planning 11th Oct 2011

<http://www.planningresource.co.uk/Energy/login/1098105/>

## 11. Olkiluoto Delayed Again

Finnish utility firm Teollisuuden Voima (TVO) blamed Areva for further delays to the construction of its Olkiluoto 3 nuclear power plant which may further push back operations to 2014. The 1,600MW EPR was originally scheduled to start operations in 2009 but delays and soaring costs meant TVO revised its start date to 2013. Areva denied the delay was its fault, saying it still plans to load nuclear fuel by the end of next year and that the exact timing depends on authorisation from TVO and Finland's nuclear safety authority. (1)

The total cost of the reactor now seems to have swollen to €6.6 billion from an initial budget of €3 billion, according to a report in Les Echos. (2)

Evidence has come to light suggesting that cheap labour is being employed at the Olkiluoto construction site. At worst, some Polish workers are paid less than two euros an hour. A Polish electrician who wishes to remain anonymous told YLE that the dearth of jobs in his home country drove him to seek work at Olkiluoto. The man says it took him some time to realise he was being short-changed. "For the first three months I was left with 1000 zlotys. Later I received 2,500 zlotys per month," he said. The roughly 250 euro monthly salary is printed on pay slips obtained by YLE. (3)

The Finnish TV station YLE has obtained evidence of problems in the construction of an EPR being built in China by Areva which has experienced similar problems to Olkiluoto and Flamanville. The

double reactor is being built at Taishan, southern China, near Hong Kong. YLE has obtained inspection reports from China's National Nuclear Safety Administration based on visits in 2009, as construction was beginning there. (4)

- (1) Reuters 12<sup>th</sup> Oct 2011 <http://af.reuters.com/article/energyOilNews/idAFL5E7LC0M620111012>  
Nuclear Engineering International 13<sup>th</sup> Oct 2011  
<http://www.neimagazine.com/story.asp?sectioncode=132&storyCode=2060881>  
Utility Week 18<sup>th</sup> Oct 2011  
[http://www.utilityweek.co.uk/news/news\\_story.asp?id=196006&channel=0&title=Finnish+reactor+'could+be+delayed+to+2014'](http://www.utilityweek.co.uk/news/news_story.asp?id=196006&channel=0&title=Finnish+reactor+'could+be+delayed+to+2014')
- (2) Reuters 12<sup>th</sup> Oct 2011 <http://af.reuters.com/article/commoditiesNews/idAFL5E7LC4J420111012>
- (3) YLE 27<sup>th</sup> September 2011  
[http://yle.fi/uutiset/news/2011/09/polish\\_workers\\_at\\_olkiluoto\\_earning\\_slave\\_wages\\_2895048.html](http://yle.fi/uutiset/news/2011/09/polish_workers_at_olkiluoto_earning_slave_wages_2895048.html)
- (4) YLE 7<sup>th</sup> Oct 2011 [http://www.yle.fi/uutiset/news/2011/10/problems\\_seen\\_in\\_olkiluoto-type\\_project\\_in\\_china\\_2930807.html](http://www.yle.fi/uutiset/news/2011/10/problems_seen_in_olkiluoto-type_project_in_china_2930807.html)

## 12. Sellafield Waste Scandal

Once again Sellafield has let its Japanese customers down. In 1999, quality data on MOX fuel made by BNFL in Britain for the Japanese Takahama 4 reactor proved to be falsified. Now raised radiation levels – above legal limits – have been discovered on the surface of some of the canisters of vitrified High Level Waste (HLW) shipped recently from Sellafield.

In August this year, some 40 tonnes of HLW, contained in 76 canisters were shipped from Barrow docks onboard the Pacific Grebe, the newest ship in the nuclear fleet operated by Pacific Nuclear Transport Ltd (PNTL). Routed via the Panama Canal, the Pacific Grebe completed its maiden commercial voyage at the Mutsu-Ogawara port in Japan's Aomori prefecture on the 15th September. The Kyushu Electric utility that owns the HLW has confirmed that, from a batch of 28 canisters being safety tested during transfer to the storage facility at Rokkasho-Mura, 3 had been found to have surface levels of beta and gamma radiation that breached acceptance levels of 4 Bequerels (Bq) per square centimetre – in one case almost 50 times over the limit.

Sellafield is reported to have launched an investigation into how the surface of the three containers became contaminated. Sellafield says that, following subsequent checks, two containers turned out to be within Japanese radiation limits but one was above the threshold. There was no sign of contamination when the canisters left Sellafield inside three sealed flasks. (2)

- (1) CORE Press Release 16<sup>th</sup> October 2011  
<http://www.corecumbria.co.uk/newsapp/pressreleases/pressmain.asp?StrNewsID=294>
- (2) Cumberland News 18<sup>th</sup> October 2011 <http://www.cumberlandnews.co.uk/sellafield-starts-inquiry-after-japanese-nuclear-waste-flasks-contaminated-1.888709?referrerPath=business>

## 13. Solar Chaos

Was it just a co-incidence that on the same day that EDF submitted its application to build Hinkley Point C to the Infrastructure Planning Commission, the Government announced cuts of around 50% in the Feed-in Tariffs which support solar photovoltaics? Catch up with all the news about the chaos the Government has caused with this announcement by reading Micro Power News here:

<http://www.microgenscotland.org.uk/news.php>

Slashing solar power subsidies will kill the fledgling UK industry "stone dead" and cost tens of thousands of jobs, say major solar businesses. The businesses accepted that the falling cost of solar photovoltaic panels should be reflected in falling subsidies, but the industry said cutting support by over 50% in the next six weeks will devastate the number of installations on homes, schools and small businesses.

The tariff paid to householders falls from 43.3p per kWh of solar electricity to just 21p under the proposals. DECC admitted that there had been three times more solar installations than it predicted since the scheme began on April 2010, during which time it said the cost of an average home installation had fallen by at least 30%. It said the proposed cuts would reduce the estimated cost of the solar Fit scheme in 2014-15 by three-quarters, to £250m a year, adding about £3 a year to electricity bills. There was also controversy over when the proposed new Fits would come into force. That date is 12 December – 11 days before the consultation ends, with the date itself open to change as part of the consultation. (1)

The Government's arguments for the FiT cuts are so easily countered that there must be another reason for the government's desire to push through cuts to incentives that are so deep and (more importantly) so swift that they will force many firms to the wall. The government's own impact assessment shows the impact on energy bills of delaying the proposed cuts until April would equate to an increase in annual average energy bills of about £1 a year by 2020 - or to put it another way tuppence a week.

James Murray, in his Business Green Blog comes up with one theory about why the Government is threatening 25,000 jobs in this way. It is well known that there is a battle going on in the heart of government over the scale and ambition of environmental policies and the cost versus the benefits of taking urgent action to address climate change. However, there is a much less well publicised fight underway between greens within the government over the extent to which our low carbon energy infrastructure should be centralised or decentralised. According to the parliamentary rumour mill, there is an increasingly tense battle behind the scenes between those who think decentralised energy such as solar should play a key role going forward, and those who believe micro-generation will always be too expensive and it is more sensible to focus the UK's efforts on large scale centralised low carbon projects. Unsurprisingly, the Big Six energy companies are lobbying hard in favour of this centralised approach, which would allow them to maintain their dominance over the market and head off the risk of millions of homes installing technologies that could slash demand for energy by anywhere between 30 and 70 per cent. (2)

Also on the Business Green website former Labour MP Alan Simpson, one of the architects of the feed-in tariff scheme, called the cuts "economically illiterate and ethically fraudulent".

- (1) Guardian 31<sup>st</sup> October 2011 <http://www.guardian.co.uk/environment/2011/oct/31/feed-in-tariff-cuts-industry>
- (2) Business Green 3<sup>rd</sup> November 2011 [http://www.businessgreen.com/bg/james-blog/2122520/real-reason-government-s-solar-cuts?WT.rss\\_f=Home&WT.rss\\_a=What+is+the+real+reason+behind+the+government%E2%80%99s+solar+cuts%3F](http://www.businessgreen.com/bg/james-blog/2122520/real-reason-government-s-solar-cuts?WT.rss_f=Home&WT.rss_a=What+is+the+real+reason+behind+the+government%E2%80%99s+solar+cuts%3F)
- (3) Business Green 4<sup>th</sup> November 2011 <http://www.businessgreen.com/bg/interview/2122565/feed-tariff-architect-slams-economically-illiterate-ethically-fraudulent-solar-reforms>