



SAFE ENERGY E-JOURNAL No.58

February 2013

The content of this e-journal was for the most part originally prepared for Nuclear Free Local Authorities and is reproduced, as adapted, with their permission but without liability for its contents.

This briefing does not deal with the UK Government's proposed new reactor programme. For an update on developments to do with new reactors see here:

<http://www.no2nuclearpower.org.uk/nuclearnews/NuClearNewsNo46.pdf>

If you would like to receive Daily Nuclear News updates by e-mail you can sign up here:

<http://www.no2nuclearpower.org.uk/mailling-lists/>

1 Scottish Parliamentary Matters

UN Framework Convention on Climate Change Debate

The Scottish Parliament debated and approved a motion on 13th December tabled by the Minister for Environment and Climate Change, Paul Wheelhouse, and amended by Claudia Beamish MSP (Labour South of Scotland). The motion welcomed Scotland's participation in the UN Framework Convention on Climate Change Conference in Doha. It also called on the Scottish Government to take action to compensate for missing the first annual emissions reduction target and to **“work closely with local authorities to help them translate Scotland's Climate Change Declaration into robust and accountable action.”** (1)

Paul Wheelhouse said: *“Domestically, Scotland is providing a strong case study of the potential of sustainable, low-carbon growth. By leading technology development, regulation and finance we are attracting major investment from leading international and Scottish companies. The low-carbon economy, which cuts across all sectors, could rise to 10 per cent of gross domestic product and 5 per cent of jobs by 2020. As the Economy, Energy and Tourism Committee concluded, we can achieve our target of being able to meet 100 per cent of our electricity needs from renewables by 2020, and in 2011 we were ahead of schedule to achieve that.”*

For the Tories Alex Johnstone MSP re-iterated his view that he finds it difficult to reconcile the pursuit of targets with the idea that we should close down our nuclear power stations and not replace them.

Jamie McGrigor (Con, Highlands and Islands) highlighted something WWF said in its briefing for the debate: if the Scottish Government is to seek to set an example to other countries that aspire to



low-carbon development, it must step up its efforts to implement our Climate Change (Scotland) Act 2009. That will involve cutting emissions from all sectors of the Scottish economy, but particularly from homes and transport, on which there is real concern because emissions are higher now than they were in 1990. Housing and transport emissions make up almost 40 per cent of our total emissions.

Scottish Government Action on Climate

In early 2013, the Scottish Government will publish its second climate change action plan – the Report on Proposals and Policies (RPP) - to meet targets out to 2027. Paul Wheelhouse MSP told the Rural Affairs Committee that *'we will achieve our targets on climate change only if we implement as many as possible of the proposals and policies in the RPP.'* WWF Scotland says the next version of the RPP must mark a step change in policy effort, introducing new policies to reduce emissions from our homes and transport sectors. A credible and ambitious low carbon action plan for Scotland is needed to deliver warm homes, cut fuel bills and eradicate fuel poverty, and enable people to walk and cycle more. (2)

Amongst other things WWF suggests a minimum standard of energy performance for all private housing at the point of sale or rental, as of 2015. The minimum standard should be an 'E' on the Energy Performance Certificate scale and a 'C' in 2020.

Green Growth

The arguments for creating a truly 'low carbon' economy are now no longer just about protecting the environment but financial recovery. Sam Gardner, senior climate change policy officer at WWF Scotland, says: *"We can see the evidence if we look at the renewables sector where the Government has shown leadership and ambition and it has resulted in job creation and growth ... but it is contrasted by the absence of the same appreciation of the same opportunity in both the housing and transport sector where there are big savings to be had – big transformations to be made if we're to fulfil the low carbon opportunity."* These two sectors are the key focus for further investment. In the housing sector the focus is on creating more efficient homes for the future, which will be cheaper to heat and use less carbon in the process, as well as ensuring that the current housing stock is better insulated and more efficient. (3)

Fuel Poverty

The Scottish House Condition Survey (SHCS) was also released by the Scottish Government on 13th December. The figures showed an extra 26,000 households in Scotland had been pushed into fuel poverty. This led to claims by WWF Scotland that although the fuel poverty figures are continuing to rise, it is at a slower rate than anticipated due to improved energy efficiency. (4) The results show that insulation is the best way of protecting people from rising energy bills. It is estimated that in an un-insulated home a third of all heat lost is through the walls and a quarter of heat through the roof. Nearly two thirds of households living in inefficient homes are in fuel poverty, an increase of 8 per cent on 2010 figures. This demonstrates the need for minimum energy efficiency standards so people are not condemned to live in fuel poverty.



Scottish Greens urged ministers to stop hand-wringing on the worsening issue of fuel poverty. Around 29 per cent of Scottish households now spend over 10 per cent of their income on energy bills, and 185,000 of those households spend over 20 per cent. Scottish Greens say the National Retrofit Programme to insulate homes – first proposed by the party in 2009 – needs to be increased from the current £65million a year to at least £100million to make a real difference. (5)

Sustainable Biomass

A debate on 16th January (6) discussed sustainable biomass and how it should be recognised as a limited resource used at an appropriate scale and primarily for heat and high-efficiency combined heat and power. The motion is about subsidies for larger scale biomass plants and the impact that they can have on both supplies and carbon emissions. Environmental campaigners attacked proposals for biomass stations in Dundee, Rosyth and Grangemouth, which could attract subsidies of £221 million a year. (7) Friends of the Earth and Biofuelwatch highlighted contradictions between Scotland's support for climate justice and the expected growth in reliance on imported wood for biomass.

There are widespread concerns amongst the public and MSPs from different parties that current Government proposals for renewable electricity subsidies will incentivise large, polluting and inefficient biomass power stations that could have serious negative impacts on carbon emissions and on forests worldwide. (8)

Building Standards

WWF Scotland has expressed concern about the level of ambition in the “Lower carbon buildings - a review of energy standards and guidance within Scottish building regulations” consultation launched on 14th January. To meet Scotland's targets to eradicate fuel poverty and cut climate emissions we need a twin track approach which focuses on improving the quality of our existing housing and building new homes to optimum energy standards. An earlier report - the Sullivan Report - recommended a net-zero carbon standards for new homes by 2016/17 to help stimulate new approaches and techniques, create a mass market and bring down costs. But the new proposals water down this proposal. (9)

Energy Bill and Scotland

Electricity Market Reforms contained in the UK Energy Bill currently being debated in the House of Commons mean that Scotland will lose the power to set its subsidy level. Niall Stuart, chief executive of Scottish Renewable says the Scottish Government has used this power particularly well in the past.

"If the strike prices turn out not to be right, we will all be saying you need some Scottish variability." (10)

1. Scottish Parliament Official Report 13th December 2012
<http://www.scottish.parliament.uk/parliamentarybusiness/28862.aspx?r=7603>



2. WWF Scotland Parliamentary Briefing, UN Climate Change Negotiations, Doha, December 2012. http://assets.wwf.org.uk/downloads/wwfscotland_doha_briefing.pdf
3. Holyrood Magazine 14th January 2013 <http://www.holyrood.com/2013/01/green-shoots/>
4. WWF Scotland Press Release 13th December 2012 http://scotland.wwf.org.uk/what_we_do/press_centre/?6369/WELCOME-PROGRESS-ON-FUEL-POVERTY-BUT-MORE-EFFORT-NEEDED---WWF-Scotland-comment
5. Scottish Greens 13th December 2012 <http://www.scottishgreens.org.uk/news/show/6750/snp-ministers-must-stop-hand-wringing-on-fuel-poverty>
6. Scottish Parliament Official Report 16th January 2013 <http://www.scottish.parliament.uk/parliamentarybusiness/28862.aspx?r=7683&mode=pdf>
7. Dundee Courier 16th Jan 2013 <http://www.thecourier.co.uk/news/politics/biomass-leads-to-a-mass-of-protests-by-campaigners-1.64940>
8. FoE Scotland Press Release 15th Jan 2013 <http://www.foe-scotland.org.uk/news150113>
9. See also Press Release 12th December 2012 <http://www.foe-scotland.org.uk/news111212>
10. WWF Scotland 14th January 2013 http://scotland.wwf.org.uk/what_we_do/latest_wwf_scotland_news.cfm?6417/Plans-for-new-build-standards-extremely-disappointing
11. Herald 2nd December 2013 <http://www.heraldscotland.com/business/company-news/the-blueprint-for-british-power.19561691>

2 Plant Life Extensions

On 4th December 2012 EDF Energy announced that it will extend the operating life of two of its nuclear power stations, including Hunterston B, by seven years. Both plants are now expected to remain operational until at least 2023. (1) The Office for Nuclear Regulation (ONR) says it is working with EDF Energy to extend the life of its nuclear power stations and that it is “*content for the plants to continue to operate*”, as long as they pass regular safety tests. Hunterston B and its sister station Hinkley Point B in Somerset are both due to undergo a periodic safety review (PSR) in 2015 with a decision on whether to grant EDF Energy a renewed license in 2016. A PSR is carried out for each operating nuclear power station in the UK every ten years. The review requires an operator to prove that its nuclear power plant is safe and complies with site license conditions. (2) So, theoretically ONR could force Hunterston’s closure in 2016, but EDF Energy said the decision “*comes after extensive reviews of the plants’ safety cases and continuing work with the independent nuclear regulator*”.

Of course regulatory approval is no guarantee of safety as illustrated by the fact that the oldest reactor at Fukushima in Japan received a ten year life-extension from regulators just one month before the earthquake and tsunami.

Both station stations opened in 1976 which makes them older, or the same age as, all but one of the eight reactors which Germany has already shut down. A major study of reactor hazards by two



leading scientists and an international energy specialist, published by Greenpeace in April 2005, concluded that risks from ageing reactors are higher because age-related degradation mechanisms are not well understood and are difficult to predict. AGRs do not have a secondary containment, so there is a high potential for large radioactive releases. (3)

A report by Large Associates – an independent nuclear engineering consultancy – on problems at Hinkley Point B which analysed a bundle of documents received under the Freedom of Information Act, and concluded that there are:

“...significant uncertainties over the structural integrity and residual strength of the moderator cores in ...AGR plants ... in view of the increased risk presented by continued operation of these nuclear plants, the reactors should be immediately shut down and remain so until a robust nuclear safety case free of such uncertainties has been established.” (4)

John Large said it was *“gambling with public safety”* to allow Hinkley Point and Hunterston to continue operating. (5) The documents, written by the former Nuclear Installations Inspectorate, reveal that AGRs are structurally defective and their continued operation is increasing the risk of a radioactive accident. The bricks which make up the reactor cores of the AGRs are cracked. These bricks, made of graphite, help control the nuclear reaction by influencing the speed of neutrons. Channels also run through the bricks which enable key safety mechanisms, such as the entry of rods designed to shut-down the reactor in an emergency. However, the cracked graphite bricks could cause safety mechanisms to fail in a severe event and the nuclear fuel to overheat, potentially resulting in a radiological release. (6)

The Union of Concerned Scientists (UCS) describes the profile of risk over the lifetime of a reactor as a ‘bathtub’ curve. New reactors start out as a high-risk as they are ‘broken-in’. In the middle of their life, reactors should be in peak health where the risks are at their lowest. Then as reactors get older they enter a ‘wear-out’ phase with a high risk that components will wear out and fail. (7)

Hunterston B is now only rated at 890MW as opposed to its original 1,320MW. (8) It operates at approximately 70% load due to boiler temperature restrictions. (9)

WWF Scotland branded nuclear power the *“ultimate unsustainable form of energy”*. Director Dr Richard Dixon (who has now moved to Friends of the Earth Scotland) said: *“This 40-year old nuclear station will be creating yet more radioactive waste which could be easily avoided through growth in renewables and greater energy efficiency. We simply don't need nuclear power to keep the lights on.”* (10)

As previously expected, the Scottish Government welcomed the life extension, and came in for some criticism This means both Hunterston B and Torness will be working past the Scottish Government’s 2020 target date for having renewable energy providing the equivalent of all Scotland’s energy needs. Labour’s Shadow Energy Minister Tom Greatrex MP said *“The welcome given to this decision by the Scottish Government leaves the SNP’s supposed anti-nuclear policy mired in confusion. Where SNP spokespeople claim opposition to nuclear power, Alex Salmond and his ministers in Edinburgh now say they support the lifetime extension of Hunterston. People in Scotland will rightly wonder whether the SNP will say and do anything to get votes in the run up to the referendum.”* (11)



An editorial in *The Herald* described EDF's decision as "serendipity". What happens when a lengthy period of cold, clear, still weather covers the country, as has happened in recent winters? Scotland can probably rely on renewables under most weather conditions but at what price to the economy and those struggling to pay mounting energy bills? (12)

The announcement led to the inevitable calls to the Scottish government to end its exclusion of nuclear as part of the future energy mix from some trade unionists with the GMP describing current policy as ridiculous, dangerous and short-sighted and must be changed. The Scottish Parliament must understand the need to protect the energy supply. (13)

Alan Whitehead MP pointed out that nuclear power plants will not be subject to the Chancellors carbon floor price – when it comes in 2013, but will be sold subject to prices set by gas. In other words existing nuclear stations will be receiving a free subsidy from consumers which they don't need. He calculates that EDF will receive £13 billion of free money per station over the period covered by these life extensions. That's in addition to the £9 billion per plant that will come EDF's way from the extensions they were granted in 2011 making a total of £44 billion in addition to the money actually earned from producing electricity. And there will be more life extensions to come as they review the rest of the present operating fleet. (14)

-
1. EDF Energy Press Release 4th Dec 2012 <http://www.edfenergy.com/media-centre/press-news/EDF-Energy-announces-seven-year-life-extension-to-Hinkley-Point-B-and-Hunterston-B-nuclear-power-stations.shtml>
 2. Nucleonics Week 13th September 2012
 3. Nuclear Reactor Hazards by Helmut Hersch, Oda Becker, Mycle Schneider, Anthony Froggatt, Greenpeace International, April 2005. <http://www.greenpeace.org/international/Global/international/planet-2/report/2006/8/nuclearreactorhazards.pdf>
 4. Brief Review of the Documentation Relating to the Graphite Moderator Cores at Hinkley Point B and Other Advanced Gas-Cooled Reactors. Large and Associates, June 2006. <http://www.greenpeace.org.uk/files/pdfs/migrated/MultimediaFiles/Live/FullReport/7810.pdf>
 5. Guardian 5th July 2006 <http://www.guardian.co.uk/science/2006/jul/05/energy.frontpagenews>
 6. Greenpeace 5th July 2006 <http://www.greenpeace.org.uk/media/press-releases/secret-documents-reveal-government-inspectors-fears-over-defective-nuclear-reactors>
 7. Lochbaum, D, US Nuclear Plants in the 21st Century: The Risk of a Lifetime, UCS, May 2004 http://www.ucsusa.org/nuclear_power/nuclear_power_risk/safety/us-nuclear-plants-in-the.html
 8. Power Engineering 4th December 2012 <http://www.power-eng.com/articles/2012/12/hunterston-b-nuclear-plant-life-extended-seven-years.html>
 9. This is Devon 4th December 2012 <http://www.thisisdevon.co.uk/story-17495127-detail/story.html>
 10. BBC 4th December 2012 <http://www.bbc.co.uk/news/uk-scotland-glasgow-west-20590915>
 11. Express 5th December 2012 <http://www.express.co.uk/posts/view/362623/Atomic-plant-will-keep-Scots-lights-on-till-2023>
 12. Herald 5th December 2012 <http://www.heraldscotland.com/comment/herald-view/extension-to-the-life-of-hunterston-b-is-welcome.19591390>



13. IB Times 14th Dec 2012 <http://www.ibtimes.co.uk/articles/20121214/scottish-government-refusal-develop-nuclear-power-stations-wrong-edf-extends-life-hunterston-nuclear.htm> & GMB Press Release 6th Dec 2013 http://www.gmb.org.uk/newsroom/latest_news/yes_to_scottish_nuclear_power.aspx
14. Alan Whitehead's Blog 3rd Jan 2013 <http://alansenergyblog.wordpress.com/2013/01/03/get-rich-quick-how-to-get-free-money-in-2013/>

3 NDA Business Plan

Dounreay

The Nuclear Decommissioning Authority is consulting on its draft Business Plan 2013-2016 until 1st February. (1) For Dounreay the key “deliverable” for 2013/14 is to continue removal and transport of DFR breeder fuel to Sellafield for reprocessing. Because this breeder fuel is now intended to be reprocessed in the old Magnox Reprocessing Plant at Sellafield, Magnox fuel management activities will have to be co-ordinated between Sellafield and Dounreay.

This year the NDA wants to see demolition of the Dounreay Material Test Reactor complex; the development of a strategy for particle management agreed with stakeholders. The NDA is also hoping to see all permits issued so that the new low level waste disposal facility can commence operation in 2014.

Chapelcross

De-fuelling at Chapelcross should be completed by June 2013. There will be some work to do on spent fuel storage ponds over the next year. It is hoped that the Office for Nuclear Regulation (ONR) will declare the site fuel free during 2013/14 and then it will enter interim care and maintenance status during 2017.

Hunterston

The main task at Hunterston A between 2013 and 2016 continue the retrieval of wet Intermediate Level Waste, since there is no longer any spent fuel on site. During 2014/16 the NDA wants to complete spent fuel pond wall sealing and stabilisation.

-
1. NDA 10th Dec 2012 <http://www.nda.gov.uk/news/draft-bus-plan13-16.cfm>



4 Chapelcross

Forty-seven jobs are to go by next summer at Chapelcross where the workforce is made up of 345 Magnox employees supported by agency workers. Management insists deadline changes in the defuelling process mean the size of the workforce has been maintained for three to four years longer than first envisaged. Defuelling of the four reactors is due to be completed by the middle of next year and that will mean a scaling down in staff numbers to 298 by September. (1)

The third of its four reactors has now been completely defuelled. Only 3,448 fuel elements out of 38,000 remain to be removed from the site and taken for reprocessing at Sellafield in Cumbria. (2)

-
1. Dumfries & Galloway Standard 19th Dec 2012 <http://www.dgstandard.co.uk/dumfries-news/local-news-dumfries/local-news-dumfriesshire/2012/12/19/51311-32454189/>
 2. BBC 24th December 2012 <http://www.bbc.co.uk/news/uk-scotland-south-scotland-20812919>

5 Dounreay

Radioactive Discharges

As reported in December Dounreay Site Restoration Ltd (DSRL) has applied to the Scottish Environment Protection Agency (SEPA) for a new authorisation to dispose of radioactive waste under the Radioactive Substances Act 1993. SEPA carried out a public consultation on the application which closed on 30th November 2012. Shetland Islands Council and NFLA Scotland (1) expressed alarm at the proposals to discharge quantities of radioactive gases and liquids hundreds – or even millions- of times greater than in recent years because of the long-term risks for human health and the environment. (2)

Waste Transports

The first of 90 rail shipments of nuclear material from Dounreay in Caithness to Sellafield in Cumbria was made overnight on 16th/17th December. The BBC reported that the journey was understood to have been made under armed escort. Forty-four tonnes of breeder material in total will be transported by train to Sellafield for reprocessing. At an estimated cost of £60m, the Nuclear Decommissioning Authority (NDA) said it was a cheaper option than trying to deal with it at Dounreay.

The NDA has also proposed moving other material called "exotics", which includes fuel containing highly-enriched uranium, from Dounreay to Sellafield at a later date. This will probably take another 60 journeys over six years starting sometime in 2014 or 2015. (3) A decision on this is expected early this year.



Dounreay's "exotic" material

Type	Tonnes	Description
Unirradiated plutonium bearing fuels	15 (includes two tonnes of plutonium)	Stored in several locations in the form of powders, pellets and pins. Would require treatment before continued storage, or transportation to Sellafield
Unirradiated high-enriched uranium fuels	One in powder and pellet form. Also some uranium metals and alloys	Stored in small quantities. The NDA said the material could be consolidated into larger "more robust" containers for long term storage
Irradiated fuels	15	Most of the material was fuel for Dounreay's Prototype Fast Reactor. The NDA said the material had "achieved very high burn-ups" meaning it needs special handling and transportation arrangements. The authority said fuel was safely and securely stored at the site

Transport Accidents

The NFLA's concerns in this area were heightened by the recent release, under the Freedom of Information Act, of figures from the Office of Nuclear Regulation (ONR) which show 38 reported accidents involving the transportation of radioactive materials in 2011 (4). The information, uncovered by investigative journalist Rob Edwards, was initially not going to be provided, and what has actually been provided remains quite inadequate. The Sellafield nuclear complex in Cumbria was involved in almost half of all the accidents transporting radioactive materials in 2011. In 18 of the 38 incidents recorded on an official database, the radioactive cargo was being moved to or from Sellafield. (5)

Concerns have been expressed around Dingwall that some of the railway bridges were not strong enough to support the waste shipments. Council officials said they were "100 per cent certain" the bridges had all been checked and were in excellent order. Lorraine Mann, a long time Highland opponent of nuclear waste movements, accepted the assurances that the chance of a rail catastrophe was remote. But she said these shipments are morally wrong. There would be a tremendous outcry if it were the other way round and the Sellafield plant was sending such waste to Dounreay. (6)

-
1. NFLA submissions, December 2012
http://www.nuclearpolicy.info/docs/radwaste/NFLA_RWB_36_Dounreay_authorisations.pdf
 2. RobEdwards 23rd Dec 2012 <http://www.robedwards.com/2012/12/huge-leap-in-radioactive-discharges-from-dounreay-runs-into-opposition.html> Sunday Herald 23rd December 2013



<http://www.heraldscotland.com/news/environment/alarm-at-plans-for-huge-increase-in-radioactive-discharges-from-dounreay.19747018>

3. BBC 17th Dec 2012 <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-20754726>
4. NFLA Press Release 19th Dec 2012
http://www.nuclearpolicy.info/docs/news/NFLA_PR_rail_transport_accidents_2011.pdf
5. RobEdwards 18th Dec 2012 <http://www.robenedwards.com/2012/12/sellafield-involved-in-18-nuclear-transport-accidents.html>
6. Ross-shire Journal 4th Jan 2013 <http://www.ross-shirejournal.co.uk/News/Fears-alayed-over-nuclear-rail-cargo-through-Ross-03012013.htm>

6 From the Archives

A series of secret documents – released earlier than the usual thirty years – reveal some interesting insights into the workings of government. A 1989 memo shows that the Scottish Office tried to prevent Professor Martin Bobrow, the then chairman of the UK Government’s advisory Committee on the Medical Aspects of Radiation in the Environment (Comare) from saying anything about contentious plans to dump nuclear waste at Dounreay. (1)

Documents from 1990 show that radioactive discharges from Dounreay triggered a fierce row with Norwegian ministers. Malcolm Rifkind, the Conservative Secretary of State for Scotland at the time, wrote to the British ambassador in Oslo, David Ratford, agreeing that more “pre-emptive action” should be taken. (2) And another row between Edinburgh and London was sparked by a European Commission inspection at Dounreay. The then Department of Trade and Industry (DTI) in Whitehall accused the Scottish Office of driving a “coach and horses” through a secret agreement limiting the scope of EC inspections. DTI officials were suspicious that EC inspectors were trying to extend their powers to examine radioactive discharges to the environment “by the backdoor”. They urged Scottish officials to take a much tougher line.

-
1. Herald 6th Jan 2012 <http://www.heraldscotland.com/news/environment/government-bid-to-silence-radiation-experts-health-fear.19834298>
 2. Herald 6th Jan 2012 <http://www.heraldscotland.com/news/environment/uk-government-concern-at-dounreay-radioactive-complaint.19837640>
 3. Rob Edwards 6th Jan 2013 <http://www.robenedwards.com/2013/01/row-between-edinburgh-and-london-over-nuclear-inspection.html>



7 Renewables

Intermittent Energy

After the Hunterston B Life Extension announcement, several commentators including the GMB and the Herald Editorial expressed concern about whether renewable energy would be able to keep the lights on after Scotland's reactors have closed down.

Germany is on the way to ending this debate – baseload will not be required in the new energy future being planned and implemented. By 2030 the 100 per cent renewables electricity grid in Germany may be 40-50 per cent wind, 30-40 per cent solar, with the rest coming from other sources. A smart grid and storage technologies will provide the means to balance this. (1)

Research by international consultancy Garrad Hassan for Friends of the Earth Scotland showed that with improved interconnection and moderate investment in energy storage, it would be perfectly possible for Scotland to phase out all conventional generation – nuclear and fossil fuels by 2030 and still have a secure and reliable electricity supply. (2)

New Scientist declared in January this year that *“anyone who tells you that renewable energy will never be reliable enough to replace fossil fuels is increasingly telling yesterday's story.”* (3) What's needed is a way to store surplus wind and solar energy. That much has been obvious for years, but there are signs that the problem is finally reaching its rightful place - at the very top of the renewables agenda. Technologies are advancing, particularly liquid-air storage. Investment is pouring in. And outdated regulations that have acted as a drag are being swept away.

Energy Independence

Scottish Water has become the latest company to reveal ambitious plans to generate its own clean energy, after announcing it is planning to develop a 54MW wind farm on land by one of its reservoirs as part of its drive to become energy self-sufficient. The state-owned utility earlier this month confirmed it has entered a partnership with wind energy developer Eneco to develop the proposed 18 turbine Macritch Hill project, which would be sited at Backwater Reservoir near Kirriemuir in Angus. (4)

A pioneering project that could see savings of up to 40% on electricity bills is to be piloted by a world-renowned eco village in Moray. Researchers at Heriot Watt University in Edinburgh have been granted funding of £2.3million from the European Commission to attempt to link community energy demands with locally-generated renewables. Now a research team from the university will pilot their ORIGIN research project over a three year period at the Findhorn Foundation in Moray. The pilot will also operate in two other eco-villages, one in Italy and the other in Portugal. The plan is to use 75 homes and public buildings at the Findhorn Foundation for the project which will be grouped together and connected by a new “smart energy” system. Residents at the Moray village will be asked to plan when they use energy to maximise use of the community-generated renewable electricity. (5)



Wave and Tidal Funding

The UK's fledgling wave and tidal power industries are to be boosted with a £20m cash injection from the crown estate. Wave and tidal projects have been difficult to fund in the UK, despite the fact that we have some of the best locations for these sorts of renewable energy projects. But the technology is still in its infancy compared with technologies such as wind and solar power, which have been proven for decades. The indication of interest in making cash investments from the crown estate, which owns the seabed around the UK and thus stands to benefit to a great extent from the expansion of marine power, will be a major fillip to the sector, which was depressed by the decision in 2011 to cut the government's fund for marine energy from £50m to £20m. However, the crown estate's money is only likely to be enough for two wave or tidal projects. Any tidal project would not stretch to a barrage, such as that proposed for the Severn, which would cost tens of billions, but could fund some demonstration projects of tidal turbines – standalone machines similar to wind turbines but under water, which produce energy reliably and predictably twice a day as tides flow in and out. (6)

-
1. See Bella Caledonia 29th Dec 2013 <http://bellacaledonia.org.uk/2012/12/29/energy-futures/>
 2. Power of Scotland Secured, FoES, WWFS and RSPB, 2010. <http://www.foe-scotland.org.uk/sites/files/possv6final.pdf>
 3. Time to nail the number one problem of green energy, New Scientist 9th January 2013 <http://www.newscientist.com/article/mg21728983.000-time-to-nail-the-number-one-problem-of-green-energy.html>
 4. Business Green 31st Dec 2012 <http://www.businessgreen.com/bg/news/2233012/scottish-water-plans-54mw-wind-farm-in-selfsufficiency-push>
 5. STV 3rd Dec 2012 <http://local.stv.tv/forres/news/features/203628-moray-eco-village-assists-pioneering-research-on-renewable-energy/>
 6. Guardian 16th January 2013 <http://www.guardian.co.uk/environment/2013/jan/16/crown-estate-wave-tidal-power>

8 Fracking

A quarter of Scotland has been opened up for drilling as part of Chancellor George Osborne's new dash for underground gas. The potentially huge scale of the exploration has stirred fears of contamination, radioactive wastes, climate pollution and explosions. More than 20,000 square kilometres (7800 square miles) covering the entire central belt and a part of the southwest, have been earmarked for possible exploitation. Plans are most advanced near Falkirk and Stirling where there are proposals to drill 22 wells to tap the methane gas in coal seams. These proposals are facing hundreds of objections from local communities. Opposition has also come from leading house-builders Cala and Persimmon, and from Network Rail, which is concerned about the railway line to Perth and Dundee being damaged by a gas blast. (1)



Labour's environment spokeswoman, Claire Baker MSP, says confusion over the planning rules could allow a "fracking free-for-all" with the technology being introduced "under the radar". (2)

-
1. Rob Edwards 9th Dec 2012 <http://www.robedwards.com/2012/12/the-dangers-of-scotlands-dash-for-underground-gas.html>
 2. Rob Edwards 9th Dec 2012 <http://www.robedwards.com/2012/12/fear-that-fracking-could-start-on-the-sly.html>

9 Trident

The House of Lords Economic Affairs Committee asked Lord West of Spithead, as part of their inquiry into the impact on the UK economy of Scottish independence about the feasibility of moving the UK's nuclear deterrent facilities from the Clyde to elsewhere in the UK and how much this might cost. He mentioned Devonport, Falmouth and Milford Haven in his reply. (1)

Whitehall is secretly preparing a contingency plan to move the UK's nuclear arsenal south of the Border if Scotland votes for independence, according to the Daily Express. The Ministry of Defence has ordered a number of upgrades to the only navy base in England capable of accommodating Faslane's fleet of Trident submarines. Ministers have always insisted there is no 'Plan B' for Britain's nuclear weapons and recently said it would cost up to £25billion to move the missiles from the Clyde. However, the Scottish Sunday Express has learned that HM Naval Base Devonport, in Plymouth, Devon, already has the capacity to house up to 10 nuclear submarines, compared to seven at Faslane. (2)

On the other hand, Sir David Omand, Blair's former spymaster, told the Commons foreign affairs committee an independent Scotland would mean the end of the UK as a nuclear power, with the country unable to find an alternative nuclear base to Faslane on the Clyde. (3)

The Plymouth Herald said the MoD has not ruled out the possibility of moving Britain's nuclear armed submarines to Devonport, but it said that neither the Devonport Naval Base nor the dockyard would safely permit the berthing of an armed Vanguard submarine. But the Defence Nuclear Safety Regulator, "*has not provided any advice*" on the feasibility of docking a Vanguard class submarine at Devonport. (4)

The Guardian says they cannot be moved to Devonport because they do not have safety clearances to dock there. The MoD has revealed that the safety arrangements for Devonport do not permit the presence of submarines carrying Trident nuclear warheads. The MoD's safety experts are not considering changing that. A new report by SCND applies the MoD's criteria for accidents at Faslane to Devonport. It concludes that Devonport would never be an officially acceptable location for Trident submarines because of the much greater population that would be put at risk. (5)



Private Eye says George Osborne is urging Cornwall county council to spend £60m (a third from the government) to dredge a deep channel, more than a mile long, out of Falmouth harbour on the pretext that it would be used by large liners, when there is no demand for such a use. (6)

-
1. House of Lords 4th December 2012 <http://www.parliament.uk/documents/lords-committees/economic-affairs/ScottishIndependence/ucEAC20121204Ev18.pdf>
 2. Express 9th December 2012 <http://www.express.co.uk/posts/view/363431>
 3. Scotsman 10th December 2012 <http://www.scotsman.com/news/politics/top-stories/independence-would-end-uk-role-as-a-nuclear-power-says-ex-spy-master-1-2683179>
 4. Plymouth Herald 5th January 2013 <http://www.thisisplymouth.co.uk/story-17767372-detail/story.html>
 5. Guardian 4th January 2013 <http://www.guardian.co.uk/uk/2013/jan/04/mod-nuclear-submarines-scotland-plymouth>
 6. Guardian 7th Jan 2013 <http://www.guardian.co.uk/uk/2013/jan/07/options-trident-kicked-out-scotland>