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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/NuClearNewsNo49.pdf>

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1 Scottish Parliamentary Matters

Draft Second Report on Proposals and Policies – RPP2

The Scottish Government published “Low Carbon Scotland: Meeting our Emissions Reduction Targets 2013-2027: The Draft Second Report on Proposals and Policies” on 29 January 2013 – better known as RPP2. A briefing by the Scottish Parliamentary Information Centre (SPICE) provides a useful summary and considers some key questions raised by the report, including how it responds to statutory requirements under the Climate Change (Scotland) Act 2009. (1)

The expertise of four parliamentary committees has been used for the first time to scrutinise RPP2. The four Committees also looked at the effectiveness of the proposals and policies set out in the Scottish Government's first report, which covered 2010-2022. (2) All four committees published their reports on 22nd March. Then a debate was held in the Parliament on 26th March.

On the same day as the publication of RPP2 the Scottish Government announced a new target to “decarbonise” the electricity sector by 2030. Scotland will aim to cut emissions from the electricity sector from 347 grams of CO₂ per kWh in 2010, to 50g CO₂/kWh by 2030, as recommended by the Committee on Climate Change (CCC). It also published an “Outline for a draft heat vision”.

Alex Salmond also announced that he had designated four Scottish ports to support the development of offshore wind manufacturing and supply chain companies. Highland & Islands Enterprise (HIE) signed memorandums of understanding with the Port of Ardersier, Kishorn Port and Cromarty Firth Port Authority and Global Energy Nigg, to help them secure consents, market opportunities, attract investment, and boost development. Salmond said the ports were “ideally positioned” to become hubs for the development of the marine renewable energy industries. (3)



RPP2 says: *“The package of proposals and policies set out in this draft RPP2 has the potential to deliver emissions abatement that would meet all of the annual targets set to 2027 in circumstances where the EU strengthens its Emissions Trading System in line with an EU-wide emissions reduction target of 30% for 2020”.*

SPICE points out that it is dangerous to rely on political agreement at EU level for a 30% emissions reductions target – the current target is 20%.

Scotland failed to meet its first legally binding climate change target set by the Climate Change Act 2009. The first Scottish Greenhouse Gas Emissions Annual Target Report states that Scotland emitted 54.7 megatons of carbon dioxide equivalent in 2010 — 1.1 megatons above the target. (4) As a consequence, as Scottish Labour's climate change spokeswoman, Claire Baker points said it is *“...imperative that [RPP2] delivers the step-change needed to get our country back on course.”* (5)

Stop Climate Chaos Scotland (SCCS) believes this draft plan fails to put us back on track to cut our emissions in line with the 2009 Climate Change Act. (6) It says the Scottish Government has shown an *‘extremely worrying’* lack of ambition in its new plans and is failing to fully grasp the multiple benefits for the economy, society and the wider environment to be gained from a transition to a low carbon economy. Patrick Harvie, the co-convenor of the Scottish Greens says *“Ministers continue to pin hopes on unpopular ideas like electric vehicles and unproven technology like carbon capture.”*

SCCS says there has been some good progress in insulation programmes for homes, but the plan fails to tackle the growing emissions from our transport sector. Even then SCCS supporter, the Royal College of Nursing Scotland, says a *“fully funded National Retrofit Programme combined with the introduction of minimum standards of energy efficiency for all housing are necessary if we are to address the national shame of fuel poverty and the challenge of climate change.”*

SCCS says it's a mistake to assume that the European Union (EU) is increasing its 2020 target for cutting emissions from 20% to 30%. Although the EU has offered to do that if other countries take action, it isn't expected to make any move before 2016 at the earliest. As a result, even if the Scottish government successfully implements all its proposals and policies to cut pollution, it will miss its climate targets in 2014 and 2015. Ministers have apparently been repeatedly warned by advisers that they needed a contingency plan to deal with delays in raising the EU target. No such plan is visible and there is just not enough effort planned here in Scotland to meet our targets. (7)

The Scottish Government disagrees and believes it can meet targets between 2013 and 2026 even with an EU emissions target of only 20%.

SCCS says (and two Scottish Parliamentary Committees agree) too many of the measures detailed in RPP2 are only proposals as opposed to firm policies, leaving the outcome open to too much uncertainty. (8)

SCCS also says RPP2 appears to 'backload' substantial effort in all sectors to beyond 2020, under often vague terms such as 'lower emissions potential in transport' or 'additional technical abatement potential'. Again, this substantially undermines the credibility of the document. SCCS believes these vague proposals should be removed from RPP2 and replaced with another credible policy or proposal before 2020 to make up the shortfall.



On housing SCCS calls for, amongst other things, the 'proposal' for minimum standards of energy performance for the whole private sector housing at the point of sale or rental to be upgraded to a 'policy' and the date for introduction brought forward to 2015.

In the Scottish Parliament on 26th March reports from the four Parliamentary Committees on how RPP2 could be improved were outlined. For example, Murdo Fraser, the Conservative Convener of the Economy, Energy and Tourism Committee talked about the need to promote and fund district heating. (9) Malcolm Chisholm MSP pointed out that the biggest problem is in existing homes in the private sector. There is provision for that in the Climate Change (Scotland) Act 2009 to establish minimum standards for the whole private sector. WWF and other bodies have called for this to be turned into a policy by 2015. This would drive uptake of, for example, the new national retrofit programme, the green deal and the energy company obligation. WWF recommends that the standard should kick in at the point of sale or rental and it recommends that it should be at point E on the performance certificate scale for 2015 and point C by 2020. Jim Eadie MSP pointed out that Scotland has more than 500,000 homes with solid walls that need insulation. We need to use the levers at our disposal, to get this done including the use of standards and regulation.

The Local Government and Regeneration Committee report on RPP2 concluded that not enough is being done to ensure local authorities play a full role in the country's decarbonisation plans. The report warns there is a lack of clarity on how local authorities should support these targets. "*The role which local authorities play in tackling climate change cannot be underestimated, not only as consumers and suppliers but also because of their unique position to influence communities across Scotland,*" said Committee Convener Kevin Stewart MSP. "*More must be done to ensure that local authorities are fully committed to addressing climate change.*" Specifically, the Committee recommends new rules requiring local authorities to ensure climate change considerations are incorporated in planning and procurement policies. The report echoes similar calls for the Westminster government in recent years, calling on the government to impose specific climate change responsibilities and targets on local authorities. (10) In oral evidence COSLA highlighted two Dunbartonshire councils which have identified where savings can be made on street lighting and what they have done will now be used as a business case for other councils. Dumfries and Galloway Council is rolling it out a programme over the next eight years and, in doing so, will save millions of pounds. (11) COSLA submitted information on how local authorities can fund energy efficient street lighting. (12)

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1. Scottish Parliament 5th Feb 2013 http://www.scottish.parliament.uk/ResearchBriefingsAndFactsheets/S4/SB_13-07.pdf
 2. Business Green 29th January 2013 <http://www.businessgreen.com/bg/news/2239703/scotland-pledges-to-decarbonise-power-sector-by-2030>
 3. Scottish Parliament Press Release 29th January 2013 <http://www.scottish.parliament.uk/newsandmediacentre/59141.aspx>
 4. STV 23rd October 2012 <http://news.stv.tv/politics/196398-climate-change-target-missed-due-to-extremely-cold-weather-in-2010/>
 5. BBC 29th January 2013 <http://www.bbc.co.uk/news/uk-scotland-scotland-politics-21241644>



6. Stop Climate Chaos 29th January 2013 <http://www.stopclimatechaos.org/news/2013/01/29/governments-plan-climate-change-not-credible>
7. Rob Edwards 24th March 2013 <http://www.robedwards.com/2013/03/scottish-ministers-under-fire-for-misleading-parliament-on-climate-targets.html>
8. SCCS Briefing for Parliamentary Debate March 2013.
<http://www.stopclimatechaos.org/sites/default/files/briefing%20for%20parli%20debate%20on%20rpp2-march2013-final.pdf>
9. Scottish Hansard 26th March 2013
<http://www.scottish.parliament.uk/parliamentarybusiness/28862.aspx?r=7891&mode=pdf>
10. Business Green 22nd March 2013 <http://www.businessgreen.com/bg/news/2256667/report-scottish-government-must-deliver-local-authority-climate-action>
11. Oral evidence to the Local Government and Regeneration Committee on 20th February 2013
<http://www.scottish.parliament.uk/parliamentarybusiness/28862.aspx?r=7829&mode=pdf>
12. See
http://www.scottish.parliament.uk/S4_LocalGovernmentandRegenerationCommittee/Inquiries/10._COSLA_Supplementary.pdf

Scottish Sustainable Housing

A finalised Scottish Sustainable Housing Strategy is due to be published in the first half of 2013 following the 'Homes that Don't Cost the Earth' consultation which was carried out last June. (1) Consultation responses highlighted mixed views on the introduction of regulations which would force private landlords to bring the efficiency of their properties up to a certain energy efficiency standard. Nevertheless the finalised strategy will look at minimum standards for private rented property, and draft regulations will be consulted on in 2015.

An Energy Efficiency Standard for Social Housing is also expected to be published soon and for new houses there will be a Building Standards Consultation in 2014.

The Scottish Government is advised by the Sustainable Housing Strategy Group, which is now chaired by Nicola Sturgeon. COSLA, Fuel Poverty Forum, Energy Action Scotland, Shelter, SFHA, Homes for Scotland, Existing Homes Alliance Scotland, 2020 Built Environment Group, RICS, Consumer Focus Scotland, Architecture & Design Scotland, and the Scottish Property Federation, are all represented on the group. The group is considering issues including retrofitting Scotland's housing stock to contribute to emission reduction and the alleviation of fuel poverty; home owner awareness and support on housing quality; setting standards for social and private sector housing; and working creatively to maximise the resources available to support these challenges. (2)

A National Retrofit Programme – now called the Home Energy Efficiency Programme (HEEPS) will start in April and provide an area-based scheme targeted at areas of high fuel poverty, but there will also be a scheme to help vulnerable households outside of those areas. Funding will be put together from Scottish Government funds and the utilities Energy Company Obligation.

The Home Energy Efficiency Programme will provide £60 million for councils to target areas which have high levels of fuel poverty. A total of £30m has been allocated across the 32 local authorities,



and councils can submit proposals for the additional £30m. Councils are expected to work with energy companies, installers, owner-occupiers and private landlords to ensure all households in areas of high fuel poverty receive an offer to have their home made more energy-efficient, such as installing insulation and double glazing. (3) Energy Action Scotland has welcomed the new funding, but says the measures won't go anywhere near eradicating fuel poverty by the target date of 2016.

Details of when the Green Deal - which will enable homeowners to make energy improvements by taking out a long-term loan which is paid back via charges on the electricity bill – will start in Scotland are still vague. The so called “Golden Rule” of the scheme is that savings made on energy bills must be higher than the monthly loan repayments. (5)

Meanwhile plans to build more than 300 greener homes have been announced by the Scottish Government which has committed £13.5 million for the project. Affordable homes using modern, environmentally friendly methods to make them energy efficient could save families living in them as much as £1,000 a year on fuel bills. The money, from the Greener Homes Innovation Scheme, has been awarded to councils, housing associations and other organisations for 14 projects across Scotland.

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1. See <http://www.scotland.gov.uk/Topics/Built-Environment/Housing/sustainable/Strategygroup>
 2. Homes that don't cost the earth: a consultation on Scotland's Sustainable Housing Strategy, Scottish Government 25th June 2012 <http://www.scotland.gov.uk/Publications/2012/06/8390>
 3. Scotland on Sunday 10th March 2013 <http://www.scotsman.com/news/environment/60m-fund-aims-to-lower-energy-bills-1-2828823>
 4. BBC 10th March 2013 <http://www.bbc.co.uk/news/uk-scotland-21726275>
 5. Scotsman 9th March 2013 <http://www.scotsman.com/news/government-must-stop-talking-and-go-green-1-2828536>
 6. Scotsman 19th March 2013 <http://www.scotsman.com/news/environment/13m-to-be-invested-in-green-homes-1-2843425>



Scottish Government Emissions

Meanwhile Scottish ministers have been ranked near the bottom of a league table of energy efficiency for UK government departments after cutting their carbon emissions by just 0.5% in the past year. Despite achieving a slight overall reduction in carbon output, Scottish government departments and agencies saw a rise in their emissions relative to their budget. In contrast, the UK Department for Communities and Local Government topped the list after cutting its carbon emissions by 70.9%, while the Department for International Development achieved a 32.7% drop, and the Welsh government recorded a fall of 17.8%. The performance of Scottish ministers leaves them ranked 45 out of 51 government departments and agencies, and 1,449 out of 2,097 UK organisations listed in the Environment Agency's carbon reduction commitment performance league table 2011-2, which compared the country's highest energy users.

1. Sunday Times 3rd March 2013

http://www.thesundaytimes.co.uk/sto/news/uk_news/scotland/article1224493.ece

Options for Scotland

Options for Scotland, a group set up by former SNP leader Gordon Wilson, has put forward nine ideas for how a post-independent Scotland might reform the energy industry. Scaling back a carbon emissions target and a moratorium on new offshore wind power are among the suggestions published in an analysis paper. Other ideas are the creation of a state-owned generating company, returning control of the grid to Scotland, investing in carbon capture and hydro power and abandoning the feed-in-tariff. Scottish Government policy against new nuclear energy should be continued, the paper adds. The over-generous London subsidy policy has led to a stampede for expensive wind energy far beyond Scotland's needs.

"We will end up with around 25,000MW from all sources, which will be five times our average daily maximum. And if we don't need these supplies and there is no market for this expensive power, Scottish consumers will have to pay for them."

The report questioned the Scottish Government's target to meet current electricity demand with 100% renewable energy by 2020. This will "lock" Scotland into a British system operated by National Grid. A moratorium on offshore wind should be put in place after independence until the Government can reassess its policy with a view to having low-cost electricity as the priority. (1)

A Scottish Government spokesman said: *"Scotland has an incredible wealth of energy resources, capable of both meeting our energy needs and significant exports to parts of the UK and Europe. Delivering a more diverse, sustainable energy mix will enhance security of supply, reduce reliance on volatile fossil fuel prices and help lower costs to consumers. We have a responsibility to ensure we seize the economic opportunities of these resources and independence will provide the levers necessary to provide long-term stability and fiscal incentives to maximise energy production, encourage investment and in turn boost tax revenues."* (2) The report is available here:

<http://www.optionsforscotland.com/wp-content/uploads/2013/03/Electricity-Options-Mar-2013.pdf>



A similar argument is made by a group of academics in the Political Quarterly magazine. They say that gaining greater control over energy policy is likely to be an inferior option as far as getting renewables funded is concerned, in comparison with the prospect of achieving a scheme organised by Westminster in which the costs are shared across the UK. This is because, in practice, funding a significant expansion of Scottish-based offshore renewables under independence would lead to considerable increases in Scottish electricity prices, something that a Scottish government would find hard to sustain politically.

The Scottish government says the current, integrated GB electricity market should continue post-independence. Given Scotland's vast renewable resources, with independence, it will be in the rest of the UK's overwhelming interests to ensure arrangements are in place to secure Scottish renewable energy. (3)

The trouble is, as former UK Energy Minister Brian Wilson points out, we can never be sure how policies in Westminster may change. Developing shale gas south of the border and ditching renewable energy targets, as George Osborne might like to do, could cause a big upset in Scotland (4) The Political Quarterly article is available here:

<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-923X.2013.02431.x/pdf>

The *Sunday Herald* looked at the issue of renewables and independence from a slightly different angle. It said the levels of subsidies for Scotland's wind farms and other forms of renewable energy would be set in London, even after independence. Under the terms of the Energy Bill now working its way through Westminster, the Scottish Government would have only a consultative role over setting renewable subsidies after 2014, effectively putting Scotland's 2020 target to meet 100% of the country's energy needs with renewables in English hands. The Scottish Government told the *Sunday Herald* that it did not "*envisage establishing a separate [subsidy] regime in an independent Scotland*", suggesting that the joint administration of the system would be "*of mutual benefit to all GB customers*". Energy experts interpreted this as an attempt by the nationalists to neutralise opponents' threats that energy bills in an independent Scotland would rise by as much as £400 a year to subsidise renewables developments. (5)

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1. Scotsman 20th March 2013 <http://www.scotsman.com/news/energy-policy-mess-needs-overhaul-1-2844964>
 2. Courier 20th March 2013 <http://www.thecourier.co.uk/news/scotland/options-for-scotland-paper-says-energy-reforms-would-be-needed-under-independence-1.78225>
 3. Guardian 11th February 2013 <http://www.guardian.co.uk/environment/2013/feb/11/scotland-green-energy-renewables-alex-salmond>
 4. Herald 12th Feb 2013 <http://www.heraldscotland.com/comment/letters/it-is-a-myth-to-believe-renewables-will-provide-100-of-our-electricity.20186091>
 5. Sunday Herald 27th Jan 2013 <http://www.heraldscotland.com/business/company-news/uk-to-control-green-subsidies-in-an-independent-scotland.20015127>



2 Radioactive Contamination

Sellafield

The Norwegian Radiation Protection Authority has published the results of its marine monitoring programme for 2010. Of particular interest are the levels of plutonium-239, plutonium-240 and americium-241 found around Orkney, these were the highest found in the monitoring programme. The lowest reading for pu-239 and pu-240 was 4.8mBq m³ off the southern Norwegian coast while the reading off Orkney was 55mBq m³. The result for americium-241 off Orkney was 9.1, compared to the lowest reading of 1.2.

The highest concentration of technetium-99 from Sellafield was found off Orkney while the levels around Shetland were among the lowest. Strontium-90 comes from Sellafield and fallout from nuclear weapons tests and the levels around Orkney and Shetland were around the middle of results, the highest being found off the southern Norwegian coast. Caesium-137 levels in seawater and sediment surface around the Northern Isles were among the lowest with much higher levels in the Skagerrak.

The full report is available at <http://www.nrpa.no/dav/3783b30ce2.pdf>

Meanwhile, the threat to southern Scotland from high-level liquid waste stored at Sellafield hasn't gone away, according to a report published by Friends of the Earth. The report called Towards a Safer Cumbria catalogues safety failures over nuclear waste at Sellafield and the millions of pounds wasted. It shows how regulators have lowered safety standards and the Nuclear Decommissioning Authority has created yet more waste instead of 'focusing squarely on the nuclear legacy', its original mission. Mike Childs, Head of Research & Policy at Friends of the Earth said:

"Sellafield is making a pig's ear out of clearing up the mess from their costly reprocessing activities. Successive governments have failed to get a grip, with the result that the people of Cumbria continue to face intolerable risks. We need a firm commitment from government that sorting out this mess is a top priority with a firm deadline for making the waste safe".

The report is available at <http://www.no2nuclearpower.org.uk/news/comment/towards-a-safer-cumbria/>

Dalgety Bay

Gordon Brown has made a fresh call to the Ministry of Defence to clean up radiation at Dalgety Bay in a debate in the House of Commons. Around 3400 particles have been detected on the Fife beach since 1990. They are believed to be the result of military aircraft with radium-coated instrument panels being incinerated on the beach and buried in the bay area after the Second World War. Part of the foreshore was closed in October 2011 after a lump of contaminated metal was discovered on the beach. The Scottish Environment Protection Agency (Sepa) has pledged to finish a "comprehensive" investigation by May this year so that it can devise a clean-up plan.



STV 7th March 2013 <http://local.stv.tv/edinburgh/216789-dalgety-bay-gordon-brown-presses-mod-to-clean-up-radiation/>

Dounreay Discharges

As reported in February, Shetland Islands Council and NFLA Scotland (1) have both expressed alarm at the proposals to discharge higher 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) Information supplied to the Dounreay Stakeholder Group by the operators has now confirmed that radioactive discharges are set to increase significantly every year for the next decade. While the company has concentrated on emphasising that discharge limits are to be reduced, this hides the fact that actual discharges are due to rise dramatically. The detailed graphs from Dounreay are available at the stakeholder group's website

<http://www.dounreaystakeholdergroup.org/files/downloads/download2347.pdf>

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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>

Dundrennan

The Ministry of Defence claims it is allowed to leave thousands of artillery shells which contain nearly 30 tonnes of depleted uranium on the seabed of the Solway Firth despite international laws banning the dumping of radioactive wastes at sea. More than 6,700 depleted uranium shells have been fired from the Dundrennan range into the Solway Firth. The OSPAR marine pollution convention outlaws the dumping of radioactive waste at sea, but the Ministry of Defence argues it can leave the depleted uranium shells on the seabed because they are "placements not dumping". The convention's definition of dumping excludes the "placement of matter for a purpose other than mere disposal thereof".

Sunday Herald 10th April 2013 <http://www.robedwards.com/2013/03/revealed-how-the-mod-gets-away-with-dumping-radioactive-waste-at-sea.html>



3 Dounreay

The Nuclear Decommissioning Authority (NDA) has published its Preferred Option paper for the management of the remaining nuclear materials at Dounreay referred to as 'exotics'. The NDA concluded, as expected that the material should be transported to Sellafield for long term management. The Site Licence Companies at Dounreay and Sellafield will now prepare a Final Business Case and submit this to the NDA Executive around the end of the financial year 2012/13 to enable final approvals of the implementation plans to be take place. Assuming that the business case is approved movement of exotic material will commence around the end of 2014/15. (1)

The material in question is a mixed bag. Some has been irradiated, some hasn't. In total there are about 26 tonnes of material. None of it is classified as waste – it is either spent fuel or nuclear material. The number of transports will depend on the details of how the material can be loaded while complying with regulatory requirements but it is expected that there would be in the region of 30-40 journeys over a period of around 6 years, commencing probably around 2014/15. The transport mode will vary and will be either by sea or by rail depending on the type of material being transported. (2)

The material includes:

- 13 tonnes of unirradiated plutonium bearing fuels containing about 2 tonnes of plutonium.
- About 1 tonne of unirradiated highly enriched (bomb-grade) uranium.
- 12 tonnes of spent Prototype Fast Reactor fuel containing weapons-useable plutonium.

Trains have already started moving forty-four tonnes of other material called "breeder material". This will be moved in about 40 journeys between Scotland and Cumbria over a four or five year period. (3) This material formed the uranium-238 blanket in the Prototype Fast Reactor at Dounreay, so it is not thought to be terribly radioactive, but there is concern the plutonium formed by the neutron bombardment of the uranium could be a prime target for theft.

During the period 2014 to 2018 while both types of materials are being moved to Sellafield there could be as many as 15 transports per year. A campaign group has been set up in the Highlands in a bid to stop these trains. A meeting was held at Dingwall in March to gather public views about the journeys. (4) The shipments pass through several towns and the Highland capital Inverness. The group wants the shipments stopped until there is a full public consultation. (5)

Meanwhile, an article in International Power Engineering looks at the challenges involved in the Dounreay decommissioning project, which is described as one of the world's deepest nuclear clean-ups, using innovative approaches to accelerate the programme whilst minimising cost.

The vertical shaft, for example, excavated in the 1950s for the removal of rock spoil during construction of an undersea tunnel for the Dounreay site's effluent discharge pipes, and authorised in 1958 as the UK's first Intermediate Level Waste (ILW) disposal facility, now represents one of the



biggest challenges in the UK's nuclear decommissioning portfolio. Along with the so-called wet silo it involves recovery and packaging of over 1500 tonnes of radioactive waste. ILW consigned to the shaft and silo now comprises items of solid waste plus sludge from the pond clean-up and decomposition of some of the solid waste, and covers a broad chemical and radiological spectrum. A decision was taken in the 1990s, as a result of advances in technology, to empty the shaft and silo, and a major programme is now underway to decommission them.

The full article is available here: Engineer Live 20th Feb 2013

<http://www.engineerlive.com/content/tackling-one-most-challenging-nuclear-clean-projects>

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1. NDA 21st Feb 2013 <http://www.nda.gov.uk/news/dsrl-exotics-preferred-option.cfm>
 2. Exotic Fuels and Nuclear Materials Preferred Option, NDA February 2013
<http://www.nda.gov.uk/documents/upload/Exotic-Fuels-and-Nuclear-Materials-Dounreay-Preferred-Options-February-2013.pdf> See also: Exotic Fuels and Nuclear Materials – Dounreay Credible Options, February 2012 <http://www.nda.gov.uk/documents/upload/Exotic-Fuels-and-Nuclear-Materials-Dounreay-Credible-Options-February-2012.pdf>
 3. Carlisle News and Star 22nd November 2011 <http://www.newsandstar.co.uk/news/nuclear-fuel-to-betaken-by-train-through-cumbria-from-scotland-1.899495?referrerPath=/news-round-up-1.50001>
 4. Press & Journal 22nd Feb 2013 <http://www.pressandjournal.co.uk/Article.aspx/3133202>
 5. North Star 6th March 2013 <http://www.north-star-news.co.uk/News/Dingwall-meeting-hears-call-for-nuclear-trains-halt-06032013.htm>

4 Chapelcross

The last of more than 38,000 fuel elements has been removed from the decommissioned Chapelcross nuclear plant in Dumfries and Galloway. It completes the defuelling of all four reactors at the site near Annan. The plant ceased power generation in 2004 and its cooling towers were demolished in 2007. The operation has been completed four months ahead of the original target for the defuelling which was set at June this year.

BBC 27th Feb 2013 <http://www.bbc.co.uk/news/uk-scotland-south-scotland-21591304>



5 Torness

The Torness Local Liaison Committee only meets once a year, unlike the Hunterston Site Stakeholder Group which meets quarterly. At the recent annual meeting held on 21st March EDF Energy was asked about whether it has considered extending the Emergency Planning Zone in the light of the Fukushima crisis. EDF Energy said the emergency plan is extendable to 30km. But when asked if they would have enough potassium iodate tablets (to reduce the risk of thyroid cancer in the event of a radioactive iodine release) for everyone within a 30km radius the response was "*we don't know, we'll have to check*".

There was an interesting question about whether sending radioactive waste to an incinerator in Southampton fitted in with the Scottish policy of dealing with waste as close as possible to the site where it is produced. There is an on-site incinerator which hasn't been commissioned.

The current Food Standards Agency consultation on reducing the amount of radiation monitoring doesn't apply in Scotland. EDF Energy has no intention of reducing the amount of monitoring done. "We struggle to find apples sometimes - but the head of the local NFU helps us out by providing apples from his garage."

Torness reactor 2 was manually shut down at 18.54 on March 26 for an unplanned outage. This follows an unplanned outage in reactor 2 lasting three days over the New Year holidays. (1)

Reuters 27th March 2013 <http://uk.reuters.com/article/2013/03/27/uk-nuclear-idUKBRE92Q05E20130327?rpc=401&feedType=RSS&feedName=domesticNews&rpc=401>



6 Future of Marine Power

Scotland's wave and tidal energy industries will only be able to grow if they get the right level of Government support. Without such investment Scotland and the UK risk surrendering a world lead in marine energy. But Renewable UK says the Coalition's plans for electricity market reform, designed to provide predictable revenue streams could either act as a springboard for growth or undermine investor confidence in marine power. RenewableUK also accuses the flagship Edinburgh-based Green Investment Bank of failing to prioritise marine power. RenewableUK estimates wave and tidal energy could be worth £6.1 billion to the UK by 2035, creating nearly 20,000 jobs – up from today's 1000. The world's leading projects are being developed in the UK waters thanks to a comprehensive package of support granted by the UK and Scottish governments, which has ensured the UK leads the world in tidal energy. However, there are significant hurdles that need to be overcome to ensure the sustained growth of the industry. (1)

So far 12 full-scale single devices with a capacity of 9 megawatts have been deployed in UK waters - more than the rest of the world combined. Commercialisation of the tidal sector is just around the corner, with the deployment of the first arrays (multiple devices) beginning in 2014, and an expected increase to 100-200MW of wave and tidal installed by 2020. Major engineering firms such as Siemens and Alstom are working with the UK and Scottish Governments, universities and electricity companies to develop British marine power. The Crown Estate has awarded leases for more than 1.8 gigawatts of capacity at nearly 40 sites in UK waters. The British Isles has 50% of the total European wave energy resource and 25% of tidal energy resource - these technologies could generate up to 20% of the UK's electricity needs.

However, this growth could be stifled if the Government fails to get the details of Electricity Market Reform right. The most crucial factor is the level of financial support technologies will receive. The Renewable UK report states that the initial strike price for the first generation of tidal arrays should be set at £280 to £300 per megawatt hour. For wave technology, the initial strike price should be £300 to £320/MWh. This will catalyse the marine energy industry, leading to economies of scale and learning through experience, which will lower the strike price for the second generation of arrays in 2018. Also, under EMR, contracts would only last for 15 years – the report argues that this must be extended to 20 years to give investors an adequate return - otherwise the strike price would have to be higher. (2)

Energy and Climate Change Minister Gregory Barker said in his opening speech at the Annual Wave and Tidal Conference in London that “now is the time for the next bold steps – moving from individual projects to large scale arrays”. He said “This Government supports wave and tidal 110%”. He also announced that two British companies have been awarded £20 million under the Government's Marine Energy Array Demonstrator (MEAD) scheme to accelerate the growth of the tidal industry. In Scottish waters, MeyGen Ltd is developing a tidal array in Pentland Firth. SeaGeneration (Wales) will install an array off the coast of Anglesey. This project has just been approved by the Welsh Government – the Skerries Tidal Stream Array is one of the largest projects of its kind to be consented in the UK (with a capacity of 10 megawatts), and it is the first commercial



tidal energy project in Welsh waters. He also announced that Pelamis Wave Power has been awarded £1.4 million from the Energy Technologies Institute to develop cost-effective Wave arrays in UK waters. (3)

The Scottish Government announced a £4.1m boost to the development of marine renewables at Orkney's European Marine Energy Centre (EMEC). £3m is for a new testing berth, allowing developers to prove their devices in real-life sea conditions. The berth will be fully connected to the grid and will increase the number of full-scale devices that EMEC can test at any one time to 15. EMEC will also lead a £1.1m project to assess the capability of support vessels used by marine power developers around Orkney and the Pentland Firth. It will conduct monitored sea trials over the next few months to assess the capabilities of the vessels and examine how they can carry out their work safely and cost effectively. (4)

Meanwhile marine energy parks in the north of Scotland and south west England have agreed to work together to develop the UK's wave and tidal industry. The agreement between the Pentland Firth and Orkney Waters and South West parks was described as a "milestone". The two will still focus on attracting investment to their own geographical areas. However, the agreement encourages the parks to exchange knowledge and best practice. (5)

Unfortunately Scotland's first wave power company is facing closure. Inverness-based Wavegen built the world's first grid-connected wave power station, the Limpet, on Islay, off the west coast of Scotland. The Company was bought by German firm Voith in 2005 in a move that saved it from going under – and most of its 15 posts, but Voith has now announced that it plans to shut the Inverness operation as part of a plan to pool its wave power engineering "know-how" in Heidenheim in Germany. Last year, the company shelved plans for a 20 megawatt wave power project on the north-west coast of Lewis due to a lack of funding and uncertainty surrounding a subsea electricity cable linking the Western Isles renewable energy project with the mainland. (6)

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1. Herald 27th Feb 2013 <http://www.heraldscotland.com/politics/political-news/coalition-plans-threaten-marine-power-sector.20356872>
 2. Renewable UK Press Release 27th Feb 2013 <http://www.renewableuk.com/en/news/press-releases.cfm/2013-02-27-wave-and-tidal-energy-industries-urge-government-to-secure-uk-s-global-lead>
 3. Renewable UK 27th Feb 2013 <http://www.renewableuk.com/en/news/press-releases.cfm/2013-02-27-energy-minister-reaffirms-government-s-commitment-to-wave-tidal-power> and DECC 27th Feb 2013 <https://www.gov.uk/government/news/20-million-boost-for-uk-marine-power>
 4. Business Green 28th February 2013 <http://www.businessgreen.com/bg/news/2251327/scotland-offers-flood-of-support-for-wave-and-tidal-power>
 5. BBC 28th February 2013 <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-21613725>
 6. BBC 4th March 2013 <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-21657133>



7 Renewable Notes

Offshore wind farms have already generated £165 million for Scotland's economy despite many projects having only just entered the planning system, according to figures released by trade body Scottish Renewables — more than a third of it during past year. The £165 million represents all contracts awarded in advance of planning consent. Last year, projects that could collectively power three million homes were put into the planning system. Most of the £165 million was spent on research, including on environmental and technical engineering surveys and project demonstration. Lindsay Leask, the Senior Policy Manager for Offshore Renewables at Scottish Renewables, said the investment showed the “*considerable level of confidence developers have in Scotland's offshore wind sector*”.

Times 28th Jan 2013 <http://www.thetimes.co.uk/tto/news/uk/scotland/article3670334.ece>

Scotsman 28th Jan 2013 <http://www.scotsman.com/business/management/windfarms-generate-165m-before-they-start-turning-1-2762101>

Scottish Renewables 28th Jan 2013 <http://www.scottishrenewables.com/news/scot-energy-boon-continues-165m-offshore-wind/>

Denmark has much to teach us about the potential of district heating schemes for social housing. District heating has two major benefits: it cuts fuel bills by providing a more efficient way of generating heat and hot water, with heat generated centrally and distributed through pipes to nearby homes; and by providing more efficient heat and hot water it cuts carbon emissions. Morten Duedahl, the director of the Danish Energy Partnership, visited Scotland last month to share Danish experiences in providing cheaper fuel to tenants. As Duedahl explained, Copenhagen has one of the largest and oldest district heating networks in the world. The first part of the city's system was installed in the 1920s, and the scheme now provides heat and hot water to 500,000 people in the capital through a 100-mile-long transmission network of pipes. There is a real appetite to increase the use of district heating schemes in Scotland, but challenges faced by housing associations include the high initial capital costs and the complexity of funding packages. One scheme being developed near Glasgow has a cocktail of funding from the European Union, two energy company schemes, the housing co-operative and loan funding from the Scottish government.

Guardian 21st Feb 2013 <http://www.guardian.co.uk/housing-network/2013/feb/21/scotland-denmark-fuel-poverty>

Researchers are launching a project which aims to use water from abandoned coal mines to provide up to 40% of Glasgow's heat. It is hoped reservoirs in the city's old tunnels can be used to create geothermal energy. The process uses heat pumps to extract heat from the stored water, which can provide a cheap way to heat homes. A Glasgow Caledonian University team will identify underground reservoirs with the potential to heat homes. The researchers expect to create a blueprint of the whole city within three years. The first stage of the work will focus on the Clyde Gateway regeneration area, which covers a large area of east Glasgow. Glenalmond Street, in the



east end of Glasgow, has been using geothermal energy for 10 years, heating 17 homes, where the average heating bill is £500 per year cheaper than the Scottish average. Water at 12°C is taken from a disused coal mine 100 metres under the site, then passed through a heat pump (which works like a fridge) to the thermal storage tank. Shettleston Housing Association judged the scheme to be a success. However it also highlighted problems maintaining the heating system, as electronic controls failed from time-to-time, and impurities in the mine water meant a better filter system was needed.

BBC 13th Feb 2013 <http://www.bbc.co.uk/news/uk-scotland-glasgow-west-21431763>

New Civil Engineer 14th Feb 2013 <http://www.nce.co.uk/8642797.article>

A Dundee manufacturer is in talks with a major European wind turbine manufacturer about a joint venture which could give Scotland an early foothold in the offshore renewables industry and create up to 500 jobs. PressureFab, set up in Dundee by German entrepreneur Hermann Twickler barely three years ago and already supporting 90 jobs, is attracting support from government agencies for its bid to accelerate Scottish participation in the wind turbine industry. It wants to secure a slice of European-based manufacturing from 2014, which it says is three years ahead of the likely earliest opening of any turbine facility in Scotland.

Herald 19th Jan 2013 <http://www.heraldscotland.com/business/company-news/joint-turbine-venture-plan-to-create-500-jobs.19962514>

An electrical contractor in Perth is capitalising on the popularity of solar panels. Quantum Energy expects to more than treble its turnover to £2 million in the year ahead from £600,000 after increasing its workforce from three to 17 to cope with demand for its services. The firm, which recently moved from Auchterarder to Perth, has already installed solar panels for Scottish housing associations but is now pushing into new markets. Clients have so far included construction companies such as Stewart Milne and the firm was recently taken on board as a supplier to Carillion.

Scotland on Sunday 3rd Feb 2013 <http://www.scotsman.com/business/management/quantum-leap-into-solar-panels-push-1-2773341>

The Scottish government will cut the renewable obligation (RO) support for big biomass plant that do not operate as combined heat and power (CHP) stations. Scottish energy minister Fergus Ewing plans to remove the RO support for all wood fuelled biomass stations that have a capacity of more than 15MW and do not provide CHP. The new RO tariff is set to come into force on 1 April 2013. The move aims to protect the “finite supply of wood” available, with Ewing saying “there should be a greater focus on biomass in smaller scale energy projects wherever possible”.

Utility Week 8th Feb 2013

http://www.utilityweek.co.uk/news/news_story.asp?id=198126&title=Scottish+government+to+cut+support+for+big+biomass

Scottish Water has fitted its pipe network with a new turbine that harnesses enough renewable energy to power up to 150 homes. Capable of producing 600 MWh of electricity each year, the technology known as Difgen is located in a strategic trunk water main at Denny, near Falkirk,



reducing the amount of electricity the water firm needs to buy from the National Grid. The new technology can be installed where the flow of water needs to be controlled by installing a pressure reducing valve. A turbine recovers the lost pressure and turns it into energy.

Edie 11th March 2013 <http://www.edie.net/news/4/Scottish-Water-cuts-energy-bill-with-new-hydro-turbine-technology/24203/>

Boris Johnson is bidding for the Greater London Authority to become an electricity supplier to the capital under far-reaching plans to boost investment in the low-carbon economy. The GLA is the first public authority to apply for a so-called Licence Lite, an electricity supply permit that would allow it to buy excess electricity from London's boroughs and sell it back at cost price to other public bodies in the capital, such as the police or NHS hospitals. The London mayor said: *"By pouring more investment into locally sourced energy supplies and reducing carbon emissions we will not only save money for Londoners but drive innovation, jobs and growth in this burgeoning sector."* Several London boroughs run generators to power public buildings, such as Islington's Bunhill Heat and Power project, which uses a gas-fired generator to heat homes and local swimming pools. Westminster operates two gas-fired generators in Pimlico that heat homes, businesses and three schools. Excess energy produced at these sites is returned to the National Grid through a mainstream supplier at a variable wholesale rate of about 5 pence per kWh. The GLA would offer 20 to 30 per cent more for the boroughs' excess as a way of encouraging growth in the low-carbon energy infrastructure.

FT 14th March 2013 <http://www.ft.com/cms/s/0/391a3414-8bf4-11e2-8fcf-00144feabdc0.html>

Highland councillors have given their backing to plans to build the world's largest offshore wind farm in the Outer Moray Firth. Moray Offshore Renewables Ltd wants to construct up to 339 turbines across three offshore wind farms located 22km (13.5 miles) from the Caithness coast.

BBC 19th March 2013 <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-21846785>

Glasgow, Bristol, Brussels, and Ljubljana have been chosen as the four finalists to proceed to the next stage of the European Green Capital 2015 Award organised by the European Commission. The European Green Capital Award is an annual prize that goes to one city every year, singling out its environmental performance. Bristol, Brussels, Glasgow and Ljubljana have been shortlisted from 8 entries across Europe. An independent panel of 12 experts assessed each entry on the basis of 12 indicators.

European Commission 25th March 2013 http://europa.eu/rapid/press-release_IP-13-273_en.htm



8 Nuclear Submarine Dismantling

The Ministry of Defence (MOD) has published its response to the Submarine Dismantling Project (SDP) Consultation. This is available from the SDP consultation page on the www.gov.uk web site:

<https://www.gov.uk/government/consultations/consultation-on-the-submarine-dismantling-project>

The MOD has decided that its approach to Nuclear Submarine Decommissioning will be to remove and store the Reactor Pressure Vessels (RPV) intact prior to disposal in a theoretical Geological Disposal Facility. It says the arguments for this option have, on balance, been supported by the responses to the consultation.

No Intermediate Level Waste (ILW) will be removed from any submarine until an ILW storage solution is agreed and this will necessitate a further consultative assessment to shortlist and select a suitable site before applying for the necessary planning approvals. Even a proposed demonstration project at Rosyth will not be able to go ahead without an ILW storage solution. This means that Rosyth and Devonport will not become ILW storage sites 'by default'. However, it doesn't mean that Rosyth and Devonport have been ruled out as potential sites.

SEPA has indicated that a changed Authorisation under RSA-93 will be required to allow dismantling activities to proceed at Rosyth. The site licensee may need to apply for an increase in the current gaseous and liquid effluent discharge limits as part of the changed Authorisation. This will be subject to statutory consultation. Further, detailed, information will be made public as part of the process of seeking regulatory approval for dismantling to take place.

MOD says applications, will be made later in 2013, to amend radioactive waste disposal and discharge authorisations for Rosyth Dockyard and for approval under the Environmental Impact Assessment for Decommissioning Regulations (EIADR). A decision will also be made on whether to proceed with the opportunity for the early removal of Low Level Waste (LLW) prior to the formal EIADR application and would be reflected in that application. This will be made available for public comment by Office for Nuclear Regulation (ONR).

The proposal to put the dismantling of redundant nuclear submarines to the test at Rosyth in Fife is the "right decision", according to Dunfermline and West Fife Labour MP Thomas Docherty. But SNP Lochgelly and Cardenden Fife councillor Ian Chisholm said he was concerned Rosyth could be left as a nuclear dump for 20 years. He says the MOD has decided the pressure vessel should be removed in one piece but "*the fly in the ointment is where that piece should be stored.*"

Dundee Courier 25th March 2013 <http://www.thecourier.co.uk/news/local/fife/decision-to-test-the-dismantling-of-nuclear-submarines-in-rosyth-right-1.79168>



9 Trident

Each year the UK Government spends £2 billion of taxpayer's money on nuclear weapons, but it has been estimated that diverting £1 billion from the Trident replacement into infrastructure spending in the west of Scotland would generate around 15,000 jobs, considerably more than would be lost should Trident be removed. Far from being a job-creator, Trident is a job destroyer. (1)

Coalition Government officials have acknowledged that, under international law, an independent Scotland "would not be recognised as a state entitled to possess a nuclear deterrent". The statement appears to rule out the possibility of the UK doing a deal with an independent Scotland to keep nuclear weapons on the Clyde indefinitely under a new military pact. (2)

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1. Scotland on Sunday 17th Feb 2013 <http://www.scotsman.com/scotland-on-sunday/opinion/letters/folly-of-trident-destroys-jobs-1-2795966>
 2. Scotland on Sunday 24th Feb 2013 <http://www.scotsman.com/news/independent-scotland-faces-nuclear-arms-ban-1-2807469>

10 Fracking

Aberdeen's oilfield service companies could benefit from a massive expansion in the shale oil sector, according to accountant PricewaterhouseCoopers, but critics of the industry say the opportunity is overstated and the focus should be on renewables. (1) The PwC report Shale Oil – the Next Energy Revolution said fracking could boost the UK's Gross Domestic Product (GDP) by around 2 to 3.3 per cent by 2035 – worth about £30bn to £50bn. While there is no specific estimate in the report for how much Scotland would benefit from fracking, it is understood shale gas extraction could be worth up to £5bn north of the Border over the same period. (2)

Joyce McMillan, writing in the Scotsman, said the SNP Government is likely to argue that we can have the best of both worlds, with both fracking and renewable energy. Out there in the real world, though, where energy prices are set, the availability of cheap gas worldwide will make investment in expensive renewables schemes less economically attractive by the day. Scotland stands, in other words, at a frightening crossroads between what seems economically unavoidable in the medium term, and what seems right for this country, in the long term. (3)

A Citigroup analyst disagrees and says developing shale gas will not kill off Scotland's burgeoning renewable energy industry. Jason Channell, director of alternative energy at Citi Research, argues that shale gas and renewables can form a "symbiotic relationship". (4)

But Niall Stuart, chief executive of industry body Scottish Renewables, said that Budget tax breaks to the shale gas industry suggested a repetition of the UK's notorious failure to support an earlier pioneering generation of wind energy, which resulted in manufacturing jobs going abroad. The



Chancellor's encouragement of fossil fuels threatens to deter future investment in "deprioritised" green energy. Lack of commitment to wind power in Budget sparks fears that investment in renewables could dry up. (5)

Meanwhile Cockenzie coal-fired power station in East Lothian has been closed. The station does not meet modern environmental standards. Scottish Power wants to convert the plant to burn gas, rather than coal. There have been no compulsory redundancies, with workers offered other jobs, redundancy or early retirement. (6)

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1. Herald 14th Feb 2013 <http://www.heraldscotland.com/business/markets-economy/fracking-could-benefit-scottish-energy-sector.20209158>
 2. Scotsman 14th Feb 2013 <http://www.scotsman.com/the-scotsman/environment/shale-gas-fracking-worth-5bn-to-scotland-1-2789869>
 3. Scotsman 15th Feb 2013 <http://www.scotsman.com/news/joyce-mcmillan-scotland-at-an-energy-crossroads-1-2791903>
 4. Scotland on Sunday 3rd March 2013 <http://www.scotsman.com/scotland-on-sunday/business/shale-and-renewables-can-form-symbiotic-links-1-2818906>
 5. Herald 24th March 2013 <http://www.heraldscotland.com/business/company-news/fixation-on-fossil-fuels-will-hurt-green-energy-industry.20597756>
 6. BBC 15th March 2013 <http://www.bbc.co.uk/news/uk-scotland-edinburgh-east-fife-21788332>