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1.0 Scottish Low Carbon Debate.

On 23rd September 2010 the Scottish Parliament debated a Scottish Government motion which called for an acknowledgement of a national consensus on building a low carbon economy and developing the technologies, skills and expertise necessary; welcomed the job opportunities and recognised that Scotland is a preferred international destination for low carbon investment.

The debate highlighted political disagreements over nuclear power but also showed no-one, even the Conservatives, really expects nuclear power to make much headway north of the border in the near future. (1)

For the opposition, Labour's environment spokesperson, Sarah Boyack MSP, while agreeing on the need for investment to ensure that we have the skills and infrastructure in place to make the most of Scotland's fantastic renewables opportunity, said it was also necessary to put fuel poverty firmly on the agenda. Labour's amendment to the Government motion highlighted housing, microgeneration and combined heat and power. She criticised the Scottish Government for not doing enough in these areas, but Labour's amendment did not stray into nuclear territory.

Labour's amendment was agreed to by the Government, and the amended motion agreed by the Parliament.

The Tory amendment, on the other hand said:

"...the scheduled closure of Hunterston B and Torness means that Scotland will lose a significant volume of low-carbon power, and therefore considers that the extension or ultimate replacement of Scotland's nuclear facilities will be crucial in maintaining a safe, secure and low-carbon energy supply going forward."

Sarah Boyack left the Parliament wondering whether she was talking about new reactors or reactor life extensions when referring to the Tory motion:

"Labour has always been clear in saying that the SNP is wrong to rule out nuclear as part of the energy mix for the future. We understand that managing waste will always be a key issue, but it is entirely sensible to keep our existing plant open as long as it is safe to do so."

But she said:

"... Labour's priority is for renewables. That is where we have the best potential for development and where all our political support and funding should be targeted. If we are to have a chance of achieving a low-carbon society, it needs to sit alongside energy efficiency across society and our economy." [emphasis added]

For the Tories Jackson Carlaw MSP highlighted the scheduled closure of Hunterston B and Torness – currently in 2016 and 2023 respectively, but his support for new reactors was half hearted. The Tory

amendment did not require the development of an ultimate replacement – it only sought life extensions for Hunterston and Torness **OR** their replacement. Carlaw accepted that:

“...it is probable that EDF Energy's capacity to progress the four new nuclear power stations elsewhere in the United Kingdom cannot accommodate a further new station at this time. There is no immediate need to commission a new nuclear station—that can wait. Of much more immediate concern is an extension of the life of our existing capability”.

Labour’s Energy Spokesperson, Lewis McDonald, chose to highlight what he called the SNP Government’s poor record in giving planning consent to renewable projects, and the major opportunities for Scotland in offshore wind generation, in the transfer of skills. On nuclear he showed the same lack of enthusiasm as many others simply saying it would be a:

“...mistake to rule out nuclear power, even if the prospect of new nuclear developments in Scotland are currently remote.” (Emphasis added)

Most Labour MSPs voted with the Conservatives in favour of nuclear life extensions or replacement reactors, but the amendment failed to get through. The SNP, Liberal Democrats and Greens voted against. Two Labour MSPs, Marlyn Glen, and Elaine Smith, abstained.

The Minister for Transport, Infrastructure and Climate Change, Stewart Stevenson, closed the debate by pointing out that the Labour vote *“will come as a great disappointment to many supporters and MSPs of that party”.*

- (1) Scottish Parliament, Official Report 23rd September 2010, Column 28912
<http://www.scottish.parliament.uk/business/officialReports/meetingsParliament/or-10/sor0923-02.htm#Co128912>

2.0 Hunterston Life Extension?

Meanwhile, the Unions at EDF’s Hunterston B nuclear station say they are confident that evidence presented to the regulator in the form of periodic safety reviews will in all probability result in agreement to a significant life extension for Hunterston B until 2021 or 2026. This would give the plant a life of 45 or 50 years. The Unions also say they expect Torness to survive for 50 years as well, which would take its closure date to 2038. (1)

- (1) Largs and Millport Weekly News 1st September 2010
<http://www.largsandmillportnews.com/news/roundup/articles/2010/09/01/404629-hunterston-unions-want-new-nuclear/>

3.0 Scottish Opinion

Only 18% of Scots would like to see new reactors built north of the border according to a poll commissioned by *The Scotsman*. (1)

- (1) Scotsman 27th September 2010 <http://news.scotsman.com/scotland/Only-1837-of-Scots-say.6551329.jp>

4.0 Scottish Waste Consultation

In September, the Scottish Government published an annex to its Environment Report as part of its Higher Activity Radioactive Waste Consultation. The consultation closed on 21st October. (1) This extra consultation was held because several respondents to the earlier consultation, including the Committee on Radioactive Waste Management (CoRWM), asked for greater detail on deep geological ‘disposal’, and why the Scottish Government has rejected it.

The Annex says there are a number of significant environmental challenges associated with deep geological ‘disposal’, and therefore possible benefits arising from the draft Policy which favours near surface storage or ‘disposal’. The Scottish Government position remains that it does not support deep geological ‘disposal’ of radioactive waste and does not consider it to be a “reasonable” alternative at this point in time. Scottish Policy is that the long-term management of higher activity radioactive waste should be in near surface facilities.

Unfortunately, however, the arguments used against deep geological ‘disposal’ are rather weak. The Annex says although any assessment of deep geological disposal will produce highly uncertain findings, the existing regulatory regime is sufficient to ensure that “*long term leaking and pollution affecting water and soil*” can be expected to be “*negligible or neutral*”. (2)

It continues:

“Risks to the general population arising from exposure to radionuclides would not be significant from a deep geological disposal facility, as long as applicable regulatory regimes are followed.” (3)

Thus the Scottish Government appears willing to accept a philosophy which allows the “[d]ispersal of contaminants from disposal sites” provided the proponents of such a facility can produce a safety case which purports to show that the resultant dose to people at the surface would be less than 20 micro sieverts per year. (4)

Environmentalists, including for example Nuclear Waste Advisory Associates (NWAA) (5) argue that the Scottish Government should be questioning whether achieving such a dose target is scientifically demonstrable or achievable in practice. It is in the nature of chemical elements and geological and biological systems to behave in a variable and hence unpredictable manner such that they make reliable risk calculations into the far future not only difficult but virtually impossible.

- (1) Scotland’s Higher Activity Radioactive Waste Policy, Strategic Environmental Assessment, Annex to the Environmental Report, Supplementary Assessment of Policy Alternatives, Scottish Government, September 2010. <http://www.scotland.gov.uk/Resource/Doc/324119/0104295.pdf>
- (2) See paras 2.1 & 2.2
- (3) Para 2.4
- (4) Geological Disposal Facilities on Land for Solid Radioactive Wastes: Guidance on Requirements for Authorisation, Environment Agency, February 2009. Page 47 para 6.3.17
<http://publications.environment-agency.gov.uk/pdf/GEHO0209BPJM-e-e.pdf>
- (5) NWAA’s submission is available at
[http://www.nuclearwasteadvisory.co.uk/uploads/79737973Scottish_Higher_Active_Waste_Resp_19_Oct_2010\[Final\].pdf](http://www.nuclearwasteadvisory.co.uk/uploads/79737973Scottish_Higher_Active_Waste_Resp_19_Oct_2010[Final].pdf)

5.0 Hunterston and the Graphite Conundrum

Part of the Scottish Government’s reasoning for rejecting deep disposal appears to be that much of the Intermediate Level Waste (ILW) in question is either graphite (45%) or activated (15%) and contaminated metals (14%). It believes the graphite waste could be ‘disposed’ of in near surface facilities, and the contaminated metal can be shipped to Cumbria or Sweden for decontamination.

30% of the UK waste inventory by volume currently expected to go to a Geological Disposal Facility (GDF) is graphite, so it will use up a large amount of expensive space. And a major concern with deep ‘disposal’ is that radioactive Carbon-14, instead of being retained in a deep facility, would be able to escape as gas and travel quickly upwards through fractures and pores in the overlying rocks until finally reaching the surface environment and entering the food chain. The more graphite dumped in the facility, the more radioactive carbon will be present. (1)

Clearly there are significant incentives for the nuclear industry to keep graphite waste out of the GDF. But dumping graphite waste in near surface facilities isn't the answer either. Radioactive carbon is extremely mobile and has a half life of 5,730 years.

According to the Nuclear Decommissioning Authority (NDA) most reactor graphite (such as virtually all the graphite at Chapelcross) will need a period of about 85 years care and maintenance before any near-surface 'disposal'. (2) But at Hunterston A the situation is more urgent.

Hunterston A used a type of fuel which required the removal of graphite sleeves before the spent fuel was shipped off to Sellafield. These graphite sleeves are stored at Hunterston in the Solid Active Waste Bunkers. In July 2000 the Nuclear Installations Inspectorate issued a "*Licence Instrument*" which required all potentially mobile Intermediate Level Waste (ILW) in the bunkers to be made passively safe by July 2004. In its December 2004 quarterly report the NII complained that non-compliance with this Instrument was a "*serious concern*" (3) Consequently, on 6 December 2004 the NII issued an Improvement Notice which required the waste in the Hunterston A Solid Active Waste Bunkers to be emptied by 31 December 2013 or earlier if reasonably practicable. Then on 25 January this year the improvement notice was extended from 31 December 2013 to 30 November 2016. (4)

According to the NDA (5) Magnox North held extensive discussions with NII over 2009 to challenge the Improvement Notice. The 3 year extension to the Improvement Notice will now allow Hunterston A to progress alternative options rather than grouting the sleeves in 3m³ boxes for interim storage.

Magnox North has now announced that it is assessing the technical viability and potential siting locations for permanent disposal facility which would be located several tens of metres below ground for graphite waste at Hunterston A. Early exploratory work was expected to start in September. The feasibility study will assess options for the concept design of a near-surface facility and possible locations on site. (6)

Fairlie Community Council has expressed concern about the geological suitability of the area expected to be used for the near surface facility. The Community Council says it is difficult to understand the logic of putting ILW into porous sandstone pits when there is already a store at Hunterston A waiting to receive this waste.

The thing which is particularly worrying local residents near Hunterston is that, because the site already has an above ground storage facility large enough to accept the graphite waste, if waste is dumped in a near surface facility there will then be spare capacity in the ILW store implying that there may be plans to import waste to Hunterston from outside of the area.

- (1) CoRWM report to Government - on National Research and Development for Interim Storage and Geological Disposal of Higher Activity Radioactive Wastes and Management of Nuclear Materials" Report 2543, October 2009. Para A.63
<http://www.corwm.org.uk/Pages/Current%20Publications/2543%20CoRWM%20Report%20on%20RD%20Final%2030%20October%202009.pdf>
- (2) Higher Activity Waste: Summary of Options for Waste Graphite, NDA, September 2010
<http://www.nda.gov.uk/documents/loader.cfm?url=/commonspot/security/getfile.cfm&pageid=42248>
- (3) NII Quarterly Report for Hunterston A for October 2004 to 31st December 2004.
<http://www.hse.gov.uk/nuclear/llc/2004/hunta4.pdf>
- (4) NII Quarterly Report for Hunterston A for 1st January 2010 to 31st March 2010
<http://www.hse.gov.uk/nuclear/llc/2010/hunta1.htm>
- (5) Addressing CoRWM recommendation 8: NDA Reactor Decommissioning Waste Project and Hunterston feasibility work on near surface disposal of graphite fuel sleeves, NDA/WMSG/P72, Issue 1, NDA 18th February 2010
- (6) Magnox North Press Release 18th August 2010 <http://www.magnoxnorthsites.com/news/2010-08-18/hunterston-a-site-graphite-pathfinder-project->

6.0 More Hunterston News

A study by consultants Hall Aitken, on the Socio Economic Impact of Decommissioning Hunterston A was presented recently by Magnox North to councillors and community councillors in North Ayrshire. The study suggests, amongst other things, a “Competitive Advantage Study”. The consultants say:

“There are potential synergies between oil and gas, nuclear and military decommissioning. Hunterston has the advantage of deep water facilities [and] a large dry-dock ... The study would take a strategic approach to opportunities from the Magnox site, the British Energy site and the Clydeport site. Scottish Enterprise and North Ayrshire Council will be key partners.”

Given that spare capacity may open up in the Hunterston ILW store and the fact that Hunterston was included on the MoD’s list of 12 potential sites for storing nuclear waste from submarines this has created some concern in the local community. (1) The local newspaper, the Largs and Millport Weekly News says the National Decommissioning Authority could make millions available for community projects over the next decade, but some local people are worried that North Ayrshire Council will be blackmailed into accepting the NDA’s vision for the area. (2)

- (1) See Sunday Herald 1st November 2009 <http://www.heraldscotland.com/news/transport-environment/revealed-where-the-mod-wants-to-dump-its-radioactive-waste-1.929530>
- (2) Largs & Millport Weekly News 20th October 2010 <http://www.largsandmillportnews.com/news/hunterston/articles/2010/10/20/406362-local-area-wants-share-of-magnox-millions/>

7.0 Hunterston C

Meanwhile Kenneth Gibson MSP for Cunninghame North, and former Labour MSP for the area Allan Wilson, have been arguing about whether a new reactor should be built at Hunterston. Allan Wilson has accused the SNP of being responsible for the application by Ayrshire Power Ltd to build a new coal-fired power station at Hunterston Coal by opposing a new nuclear plant for the area Kenneth Gibson, on the other hand, says Ayrshire Power’s application was not dependent on Hunterston C not going ahead Mr Gibson says Hunterston C is unlikely to be built because no-one can afford it.

- (1) Largs & Millport Weekly News 27th October 2010 <http://www.largsandmillportnews.com/news/westkilbride/articles/2010/10/27/406586-noone-can-afford-to-build-nuclear-station/>

8.0 Scottish Renewable Alternatives

The Scottish Government has increased its target for the percentage of electricity to be supplied by renewable sources in 2020 from 50% to 80%. (1) The move was welcomed by Scottish Renewables, the industry lobbying body, which published a report it commissioned from energy consultants, Garrad Hassan, which showed that 123% would be attainable. The report examined existing proposals for renewable projects and current build rates. (2)

First Minister, Alex Salmond predicted that Scotland would be able to meet its entire electricity needs with renewable sources by 2025. Speaking ahead of a Scottish Low Carbon Investment Conference in Edinburgh, Mr Salmond said a new Offshore Wind ‘Route Map’ would be unveiled at the event to show how the country can maximise potential energy sources around its coast. (2)

- (1) Herald 24th September 2010 <http://www.heraldscotland.com/news/politics/salmond-announces-80-green-energy-aim-1.1057181>
- (2) See Driving the Low Carbon Economy: Paper 1 – Renewing our ambitions. Scottish Renewables, September 2010. <http://www.scottishrenewables.com/MultimediaGallery/435778a0-b7c6-49f3-a7a8-f83a6e7c1ede.pdf>

- (3) Herald 28th September 2010 <http://www.heraldscotland.com/news/transport-environment/salmond-renewable-energy-will-power-scotland-by-2025-1.1057921>

9.0 Fuel Poverty

The Scottish Government is committed to eliminating fuel poverty by 2016 "as far as is reasonably practicable". Around 618,000 households (27%) were estimated to be living in fuel poverty in Scotland in 2008. We know from the Scottish House Condition Survey that every 5% increase in fuel costs drags another 40,000 Scottish households into fuel poverty. In Scotland there were 2,764 excess winter deaths last year. (1)

Alex Salmond's announcement that the target for 2020 for the amount of electricity generated from renewable sources will be increased from 50 per cent to 80 per cent and 100% by 2025, has generated a debate about how this should be paid for. *The Scotsman* has called the Green Energy Bill "too much to bear". (3) Elizabeth Gore, deputy director of Energy Action Scotland, the fuel poverty charity, called for a debate on how the development of renewable energy should be financed suggesting it would be fairer if it were financed through taxation rather than by electricity consumers. (4)

Ofgem has estimated that renewing infrastructure and meeting carbon targets is likely to require an investment of up to £200 billion across the UK which will mean increases in domestic energy bills of between 14% and 25% by 2020. As well as funding for large-scale renewable, the Feed-in Tariff which is a financial mechanism to support small-scale renewable electricity, and the forthcoming renewable heat incentive are seen by a few (e.g. George Monbiot) simply as a way of increasing fuel bills further to support middle class homeowners, thus worsening fuel poverty.

Scottish Renewables, the renewable energy trade body, points out that all energy policy options will lead to higher bills for consumers over the medium and longer term. (5)

Clearly, If action is not taken, rising fuel costs will bring large numbers of families into fuel poverty with more and more vulnerable people unable to afford to keep warm in winter. And since heating represent half of the UK's carbon emissions, we are going to have to transform the fabric efficiency of our buildings in any case. The scale of the task is huge. The low-carbon refurbishment of over 2 million existing homes by 2050 means one house will need to be refurbished every ten minutes. (6) But massive benefits will flow from such a programme: elimination of fuel poverty, the creation of hundreds of thousands of new skilled jobs.

In answer to critics like George Monbiot who think feed-in tariffs and the renewable heat incentive are just for the middle classes there are now some fantastic examples of projects in England, for example those run by Brent Housing Partnership, (7) North Nottinghamshire, (8) South Yorkshire Housing Association (9) and Birmingham City Council, where small scale clean technologies are being used to help eliminate fuel poverty.

- (1) Scotsman 28th October 2010 <http://thescotsman.scotsman.com/news/Winter-death-toll-falls-despite.6602340.jp>
- (2) Scotsman 29th September 2010 <http://thescotsman.scotsman.com/leaders/Leader-Green-energy-bill-is.6555720.jp>
- (3) Scotsman 29th September 2010 <http://thescotsman.scotsman.com/leaders/Leader-Green-energy-bill-is.6555720.jp>
- (4) Scotsman 29th September 2010 <http://thescotsman.scotsman.com/news/Going-green-will-push-Scots.6555917.jp?articlepage=2>
- (5) Scotsman 2nd October 2019 <http://thescotsman.scotsman.com/letters/Letter-Mix-of-energy.6561565.jp>
- (6) 24 Dash 18th October 2010 <http://www.24dash.com/news/housing/2010-10-18-UK-must-refurbish-one-house-a-minute-until-2050-conference>
- (7) Business Green 8th October 2010 <http://www.businessgreen.com/bg/news/1869909/bright-future-social-housing-solar-schemes>

- (8) Buyability 8th October 2010 <http://www.gasboiler-buyability.co.uk/a1-housing-trialling-baxi-micro-chp-boilers/>
- (9) See (7)
- (10) 24 Dash 5th October 2010 <http://www.24dash.com/news/housing/2010-10-05-10-000-homes-in-Birmingham-to-benefit-from-solar-panel-retrofit-drive>