

SAFE ENERGY E-JOURNAL No.53

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1. Scotland's 100% renewables target

From the energy point of view the recent Scottish General Election must have been one of the most remarkable election campaigns to have taken place anywhere in the world with the two main Parties, Labour and the Scottish National Party (SNP) arguing over whether Scotland should aim to meet either 80 or 100% of its electricity requirements from renewable energy by 2020. Both positions would be the envy of anti-nuclear and climate change campaigners the world over.

The Scottish Government now has a target of producing 100% of Scotland's electricity from renewables by 2020. (1) Labour argued that the 80% target was already extremely ambitious and difficult to achieve. (2) As reported in the March briefing, Scottish Labour leader Ian Gray argued for a "green housing revolution" with a target of 10,000 producing renewable energy by 2015 and household and community renewables becoming standard in new and existing houses by 2020. (3)

The feasibility of the 100% renewables target was a major election issue. The Scottish Chambers of Commerce (SCC) accused the Parties of engaging in a "bidding war" on ever higher targets and warned of an energy gap between 2020 and 2030, when most of Scotland's large power stations are scheduled for decommissioning unless new reactors are built to ensure supplies are secure and affordable. (4) CBI Scotland director Ian MacMillan said the target was both unrealistic and undesirable. Peter Hughes, chief executive of trade body Scottish Engineering, said the failure to commission new reactors would leave Scotland exposed to an unreliable power source. (5)

A letter from various academics and Sir Donald Miller, who was chairman of Scottish Power during most of the period when Torness was being built, argued that: "*the pretence that our electricity can in future be supplied from renewables, mainly wind and marine, has gone on too long. These matters are not a question of opinion; they are answerable to the laws of physics and are readily analysed using normal engineering methods.*" (6) They called for nuclear to generate 50% of our requirements.

The Business leaders' campaign was rather undermined when the 100% target was endorsed by seven leading industry figures. In an open letter, seven executives said the target of 100% renewables by 2020 that has already been backed by a number of industry leaders, academics and politicians, is ambitious but achievable. This means that Scotland will by then produce around twice the electricity that we consume with just over half coming from a variety of renewable sources. It is vital, they said, that Scotland builds on its current low-carbon industry in order to attract investment in the sector. (7)

Ignacio Galan, chairman and chief executive of Scottish Power's parent company, Iberdrola, described the renewables goal as "*entirely credible*". He said "*Scotland is at the forefront of the renewable revolution. With fair charging and the correct political will it is entirely credible to see Scotland producing 100% of its own electricity requirements from renewables by 2020 as well as continuing to produce power from a range of other sources. Iberdrola are keen to be a key part of the investment required to bring that power into production.*" (8)

Rick Eggleston, the managing director of wind turbine manufacturer RE power, also threw his weight behind the 100% target. (9) Niall Stuart Chief Executive of the trade body, Scottish Renewables said, nobody is arguing that Scotland would not continue to have other forms of generation alongside a significantly expanded renewables sector. Greater renewables capacity, as part of a balanced mix of

technologies, would allow Scotland to meet more of its own needs from sustainable, low-carbon generation and grow its electricity exports to other parts of the UK and Europe. It would also create wealth and employment here in Scotland. The target is ambitious, but not beyond reach. It will require concerted action to build the right market frameworks and grid infrastructure, and to maintain the right balance in the planning system, but the industry and technology have developed rapidly over the last few years and only a proportion of existing plans and commitments for wind, wave, tidal, biomass and hydro are required to hit the target. (10)

Richard Dixon, Director of WWF Scotland said there is now very little chance of new reactors being built in Scotland. (11)

Meanwhile, the Scottish Government has set out the case for responsibility for the Crown Estate, which administers Scotland's seabed and most of its foreshore, to be transferred from Westminster to Holyrood. This would give the Scottish Government control over revenue from offshore renewable energy which currently goes to the UK Treasury. (12)

- (1) Scottish Government Press Release 18th May 2011 <http://www.scotland.gov.uk/News/Releases/2011/05/18093247>
- (2) Herald 15th April 2011 <http://www.heraldscotland.com/news/election/snp-s-100-green-aim-is-a-fantasy-1.1096491>
- (3) Labour in the Scottish Parliament 21st Feb 2011 <http://www.sarahboyack2011.com/wp-content/uploads/2011/02/Green-Deal-Launch.pdf> Also Herald 22nd Feb 2011 <http://breakingnews.heraldscotland.com/breaking-news/?mode=article&site=hs&id=N0077621298295095863A>
- (4) Scotsman 20th April 2011 <http://news.scotsman.com/news/Scotland-needs-new-nuclear-power.6754811.jp>
- (5) Scotsman 15th April 2011 <http://thescotsman.scotsman.com/news/Salmond-under-fire-for-39cloud.6752112.jp>
- (6) Scotsman 27th April 2011 <http://news.scotsman.com/letters/Letter-Powerful-case-against-renewables.6758344.jp?articlepage=1>
- (7) Scotsman 27th April 2011 <http://news.scotsman.com/letters/Letter-Powerful-case-against-renewables.6758344.jp?articlepage=2> The seven signatories were: Keith Anderson CEO Scottish Power Renewables; Allan MacAskill Business development director SeaEnergy Renewables; Roy MacGregor Chairman, Global Energy Group; Martin McAdam Chief executive officer, Aquamarine Power; Richard Yemm Chief technical officer Pelamis Wave Power; David Maxwell Steel Engineering managing director; John Robertson Managing director Burntisland Fabrications.
- (8) Scottish Power Press Release 26th April 2011 http://www.scottishpower.com/PressReleases_2175.htm
- (9) Scotland on Sunday 1st May 2011 <http://scotlandonsunday.scotsman.com/business/Renewables-are-39only-answer39-to.6760358.jp>
- (10) Scotsman 16th April 2011 <http://thescotsman.scotsman.com/opinion/Letter-Power-supplies.6752584.jp>
- (11) Edinburgh Evening News 26th April 2011 <http://edinburghnews.scotsman.com/edinburgh/Call-to-ditch-nuclear-plants.6758000.jp> WWF Scotland Press Release 26th April 2011 http://scotland.wwf.org.uk/what_we_do/press_centre/?4859/Chernobyl-25th-Anniversary--No-room-for-new-reactors-in-Scottish-energy-policy
- (12) Times 20th June 2011 <http://www.thetimes.co.uk/tto/news/uk/scotland/article3067565.ece>

2. Power of Scotland Secured

As reported in the March briefing, Scotland could phase out all conventional fossil fuel and nuclear power stations by 2030, maintain a secure electricity supply, and generate revenue from renewable exports, according to new research by one of the world's leading energy consultants, Garrad Hassan. "*The Power of Scotland Secured*", (1) published by Friends of the Earth with backing from RSPB and WWF, sets out how Scotland could guarantee security of supply, while decarbonising half its total energy needs by 2030. Scotland could generate could 185% of its electricity from renewables by 2030. This is very similar to the figure estimated in the NFLA Scotland briefing last year. (2)

Friends of the Earth Scotland has published a new myth-busting pamphlet on renewable energy in Scotland, based on the Garrad Hassan research. (3)

Scottish Electricity Demand in 2030 (but energy efficiency improvements could be much better)	35,1800 – 45,900 Gigwatt hours (GWh = 1 million kilowatt hours)
Replace some cars and gas heating + 20-25%	44,000 – 57,000 GWh
Renewable supply 2030 (low & high growth)	43,000 – 67,000 GWh
Community and household renewables not included.	7,000 GWh

Clearly the quantity of electricity supplied over a year is not a problem. However one of the main arguments against the 100% renewables target hinges around security of supply i.e. not how much electricity you can produce over the course of a year, but whether you have enough electricity at any given moment to meet demand. This leads some people to argue that we need ‘base-load’ fossil fuel or nuclear stations to back up renewable sources when the wind doesn’t blow or the sun doesn’t shine. But there are other ways of making sure we have a secure electricity supply.

Smart meters will be installed in homes and businesses across the UK by 2020 anyway. These can work in conjunction with smart appliances, such as freezers, which can turn themselves down or off when electricity demand is high and come on again later. If our buildings and hot-water systems are well insulated they would also be able to vary their power use according to the availability of electricity. The same is true for electric cars.

Another way to manage variability is to store energy. This can be done using ‘pumped storage’ hydro schemes. We already have 740MW of pumped storage capacity in Scotland and there are plans for another 600MW. (Peak demand in Scotland is 6,000MW.) The batteries of electric vehicles could also be used. Combined Heat and Power plants can also help by being built along with heat stores.

Finally improving grid connections between Scotland and the rest of the UK or even mainland Europe will help to reduce variation in demand and supply – if the wind is not blowing in Scotland we can be fairly sure there will be plenty of power somewhere else.

The overall costs of the system outlined in Power of Scotland Explained are likely to be similar to the costs of maintaining a secure supply with a more ‘business as usual’ approach. In fact the price of fossil fuels is likely to rise while the costs of renewables are likely to fall. And renewables and efficiency are the best options when it comes to creating jobs. (4)

Beth Stratford, energy campaigner for Friends of the Earth Scotland, says: *“The important thing is to put this in perspective. The possibility of wind output varying by 7-8 per cent from year to year is rather less worrying than the possibility of an enormous power station like Sizewell B having to shut down in an emergency and not reopen for six months, as it did last year. In terms of resilience and reliability, a decentralised energy system based on a broad variety of renewables wins hands down over a centralised system which relies on a handful of enormous power stations, which could fail with no warning whatsoever.”* (5)

The information in the Garrad Hassan report has had to be re-iterated on several occasions, most recently after a claim by Mackay Consultants that the Scottish Government’s target of generating 100% of Scotland’s electricity from renewable sources by 2020 is unrealistic and unachievable. (6)

- (1) The Power of Scotland Secured, report & summary, December 2010 <http://www.foe-scotland.org.uk/sites/files/possv6final.pdf>
- (2) Nuclear Free Local Authorities Briefing: Scotland’s electricity needs, can they be met from renewable without recourse to nuclear? July 2010. [http://www.nuclearpolicy.info/docs/briefings/A191_\(NB76\)_Scotland_and_renewables.pdf](http://www.nuclearpolicy.info/docs/briefings/A191_(NB76)_Scotland_and_renewables.pdf)
- (3) Power of Scotland Explained <http://www.foe-scotland.org.uk/power-explained>

- (4) See Nuclear Power and Jobs briefing February 2011.
<http://www.no2nuclearpower.org.uk/reports/JobBriefing.pdf>
- (5) Scotsman 2nd April 2011 <http://www.scotsman.com/news/Lack-of-wind-saw-Scottish.6744476.jp>
See also an opinion piece by Prof Stephen Salter, Scotsman 25th April 2011
<http://thescotsman.scotsman.com/opinion/Stephen-Salter-The-winds-of.6757343.jp>
- (6) Letter from FoE, WWF and RSPB. Herald 11th June 2011
<http://www.heraldscotland.com/comment/herald-letters/renewable-energy-can-be-grown-to-exceed-our-needs-1.1106309>

3. Scotland wants to take the ‘same route’ as Germany

Energy Minister, Fergus Ewing MSP, declared that the German decision to phase out nuclear power by 2022 "adds further weight" to the SNP's plans to generate all of Scotland's energy from renewables within ten years. (1) He also said that Scotland is ideally placed to follow a similar route. (2)

It is not entirely clear from this what the Energy Minister's reaction would be to proposals to extend the life of Hunterston B yet again, but EDF Energy is already preparing its case for a further life extension for Hunterston B from 2016 to 2021. (3) Trade Unions at Hunterston are said to be confident the evidence presented to the regulator for the periodic safety reviews will result in agreement to a significant life extension for Hunterston B until 2021 or 2026. (4)

The eight reactors which Germany has already shut down were opened between 1975 and 1984. Hunterston B, which was opened in 1976, is older than, or the same age as, all but one of them. 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. (5)

The Scottish Government has very limited official powers in the Periodic Safety Review process. However, it could well be possible to influence the outcome by commissioning an independent study on the risks of continuing to operate 35-year old graphite-moderated reactors, and extending the life of such reactors beyond 2016. There are several consultancies capable of carrying out such a critical analysis. For example, Large Associates reported in 2006 on problems at Hunterston B's sister station, Hinkley Point B. The Large Associates report analysed a bundle of documents received under the Freedom of Information Act concluded that there are:

"...significant uncertainties over the structural integrity and residual strength of the moderator cores in ...AGR plants [including Hunterston] ... 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". (6)

NFLA (Scotland) has written a joint letter to the Energy Minister, together with FoE Scotland and WWF Scotland asking him to commission an independent study on the risks associated with continuing to operate Hunterston B. (See Annex)

Meanwhile Jackson Carlaw, the Scottish Conservatives' spokesman on energy issues, told The Scotsman that the SNP's plans for 100 per cent reliance on renewable energy by 2020 was "extreme recklessness" and could lead to Scotland being forced to buy nuclear power from England if nuclear power stations north of the Border were closed. (7)

- (1) Scottish Government Press Release 30th May 2011
<http://www.scotland.gov.uk/News/Releases/2011/05/31082406>
- (2) Scotsman 31st May 2011 <http://thescotsman.scotsman.com/scotland/Scotland-wants-Germanstyle-nuclear-shutdown.6777092.jp?articlepage=1>
- (3) Largs & Millport Weekly News 11th April 2011
<http://www.largsandmillportnews.com/news/roundup/articles/2011/04/11/412213-hunterston-nuclear-can-go-to-2021/>

- (4) Largs and Millport Weekly News 1st September 2010
<http://www.largsandmillportnews.com/news/roundup/articles/2010/09/01/404629-hunterston-unions-want-new-nuclear/>
- (5) Nuclear Reactor Hazards by Helmut Hersch, Oda Becker, Mycle Scheneider, Anthony Froggatt, Greenpeace International, April 2005.
<http://www.greenpeace.org/international/Global/international/planet-2/report/2006/8/nuclearreactorhazards.pdf>
- (6) 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.largeassociates.com/PapersReports.htm>
- (7) Scotsman 31st May 2011 <http://thescotsman.scotsman.com/scotland/Scotland-wants-Germanstyle-nuclear-shutdown.6777092.jp?articlepage=1>

4. Electricity Market Reform

Ian Marchant, chief executive of Scottish & Southern Energy (SSE) says the UK Government's proposals to support nuclear energy through Electricity Market Reform could seriously damage wind and wave schemes. (1) WWF Scotland director Dr Richard Dixon said, "*Ian Marchant is absolutely right that the market should not be fixed in favour of nuclear power, especially when this will be at the expense of renewable energy schemes and to the detriment of Scotland.*" (2)

For more information on Electricity Market Reform and Nuclear Subsidies see:
http://www.no2nuclearpower.org.uk/reports/Nuclear_power_subsidies.pdf

It is widely agreed that whatever we do, whether it's going down a nuclear pathway or 100% renewables one, energy prices are going to rise. Scottish Power recently announced plans to increase gas prices by 19% and electricity by 10%. The other big utilities are expected to follow suit. (3) These most recent increases have been put down to increasing demand for gas as a result of the Fukushima disaster and the Arab uprisings.

Nearly a million extra households face the prospect of being plunged into fuel poverty within months after the Scottish Power announcement, assuming the other utilities follow suit, according to National Energy Action (NEA). (4)

In addition to price increases caused by disruptions in the market, the UK Government appears to be planning to force Scottish and UK consumers to subsidise nuclear power through its electricity market reforms, which will drive another million households into fuel poverty.

It is essential, therefore, according to the Association for the Conservation of Energy that the Scottish Government examines the German Government's energy efficiency plans as well as its nuclear phase out plans. Germany is investing more than €1.3 billion per year into energy-saving measures, with the aim of reducing electricity demand by 25% by 2050. In contrast, the Scottish Government is planning a 7% increase in electricity demand by 2020, and has slashed energy saving investment by a third in its 2011-12 budget. (5)

Patrick Harvie MSP of the Greens has called for smaller and community-run renewables projects as part of a decentralised energy system with support for local authorities to start building the kind of local energy projects which can bring in revenue. (6)

The health risks of living in a poorly insulated home have been highlighted in a new study into the energy efficiency of Scottish housing. WWF Scotland claims that for every £1 spent on keeping homes warm and well insulated, the NHS could save 42 pence on health costs. Now the charity is calling upon the Scottish Government to draw up new regulations which would ensure every house that is sold or rented meets a minimum level of fuel efficiency by 2015. It wants 150,000 of Scotland's worst insulated homes to be fitted with insulation, so they meet the band 'E' rating on the Energy Performance Certificate scale, which runs from A to G. Most of the work would cost £2,600 per

home, with the cost paid back in four years due to savings on fuel. Another WWF report published in March suggested that bringing all homes up to 'D' rating would create nearly 10,000 jobs and add 613 million to the economy. Several charities have backed WWF's call, including Age Scotland, the Scottish Building Federation and Shelter Scotland. (7)

- (1) Scotsman 2nd June 2011 <http://news.scotsman.com/news/Westminster-accused-of-rigging-energy.6778258.jp>
- (2) WWF Scotland Press Release 1st June 2011 http://scotland.wwf.org.uk/what_we_do/press_centre/?4974/Scottish-energy--boss-slams-nuclear-power-subsidy
- (3) Herald 12th June 2011 <http://www.heraldscotland.com/news/home-news/swinney-demands-scottish-power-justifies-huge-price-rises-1.1106414>
- (4) Times 8th June 2011 <http://www.thetimes.co.uk/tto/business/industries/utilities/article3054340.ece>
- (5) Letter from Chas Booth, Association for the Conservation of Energy, Scotsman 2nd June 2011 <http://thescotsman.scotsman.com/nuclearenergy/Letter-Renewable-hope.6778114.jp>
- (6) Ekklesia 30th April 2011 <http://www.ekkleisia.co.uk/node/14673>
- (7) WWF Scotland 6th June 2011 http://scotland.wwf.org.uk/what_we_do/latest_wwf_scotland_news.cfm?4982/Raising-the-Standards

5. Glasgow – Super City

Renewable energy companies at the cutting edge of the sector have put Glasgow on a map of future UK "supercities", according to a new report. It predicts how small firms and entrepreneurs will drag Britain out of recession and shape the business landscape in the next decade. Glasgow and Bristol have joined Brighton, Leeds, Liverpool, London and Newcastle as the host locations of industries that are set to become the "driving force" of the UK economy. Renewable energy will lead to economic growth in Glasgow, Cornwall, the Humber, north Wales and Orkney.

Scotsman 2nd June 2011 <http://thescotsman.scotsman.com/business/Glasgow-set-to-become-a.6778173.jp?articlepage=2>

6. Marine Energy

A Carbon Trust report suggests that the UK could capture almost a quarter of the entire global marine energy market. Given Scotland's lead on wave and tidal power much of this could come to Scotland. This could mean over 68,000 UK jobs by 2050. (1)

A pioneering scheme to harness the power of waves on an industrial scale on Orkney has been selected by the UK Government for consideration as part of a major European funding initiative. If successful the two Edinburgh-based wave power companies, Pelamis and Aquamarine Power, will be able to install 24 offshore Pelamis "sea-snake" machines and ten Oyster near-shore machines in the Pentland Firth to create a 28-megawatt wave farm. The scheme is backed by three major electricity companies: ScottishPower Renewables, Scottish & Southern Energy Renewables and E.ON. (2)

- (1) Dundee Courier 4th May 2011 <http://www.thecourier.co.uk/News/National/article/13608/carbon-trust-report-lends-weight-to-snp-s-renewable-energy-claims.html>
Carbon Trust, Marine Renewables Green Growth Paper, May 2011
<http://www.carbontrust.co.uk/news/news/press-centre/2011/Documents/110503-marine-green-growth.pdf>
- (2) Times 13th May 2011 <http://www.thetimes.co.uk/tto/news/uk/scotland/article3018242.ece>

7. Italian Referendum

Following the overwhelming vote against nuclear power in the recent Italian Referendum which rejected nuclear power, and the German Government's decision to close pre-1980 nuclear power

stations, Green MSP Patrick Harvie has put down a resolution in the Scottish Parliament calling for the closure of Scotland's two remaining nuclear power stations by 2020 at the latest.

S4M-00297 - Europe Abandoning Nuclear Power

<http://www.scottish.parliament.uk/business/businessBulletin/bb-11/bb-06-15f.htm>

8. Dounreay – spent fuel transports by rail

The possibility of spent fuel shipments from Dounreay to Sellafield travelling by rail the length of Scotland has been raised by the Nuclear Decommissioning Authority (NDA) and Dounreay Site Restoration Ltd. Both organisations says they favour sending spent breeder fuel from the DRF dome-shaped reactor to Sellafield for reprocessing. The proposals will go to public consultation soon with the NDA making a final decision in the autumn. The spent fuel in question was the so-called "blanket" used in the fast reactor. Eleven tonnes were removed when the reactor closed in 1977 and has since been kept in a heavily shielded store on the site. A further 33 tonnes remains in the reactor with preparations under way for a multi-million-pound, hi-tech operation to remove those 977 elements. (1)

The breeder fuel represents only about half of the specialist reactor fuel still on site at Dounreay, but the NDA wants to decide what to do with it in September.

The NDA will publish its consultation document about the proposed management of the nuclear fuel at Dounreay in the next few weeks. Options for the fuels range from indefinite storage at Dounreay to re-use in nuclear power stations elsewhere. The NDA's preferred option seems to be to remove all the fuel from Dounreay. (2)

- (1) John O'Groat Journal 17th June 2011 <http://www.johnogroat-journal.co.uk/News/Campaigners-condemn-Dounreays-nuclear-fuel-rail-plan-17062011.htm>
- (2) DSRL 16th June 2011 <http://www.dounreay.com/news/2011-06-16/nda-to-see-views-on-removal-of-fuel-from-dounreay>

9. Torness

Groundwater at Torness was contaminated with radioactive tritium (an isotope of hydrogen) leaking from two pipelines. The levels of radioactivity that leaked at Torness were "extremely low", according to a company spokeswoman. "One would have to drink one tonne of the fluid found to receive a dose equal to thirty minutes flying time in an aeroplane," she said. But the leak, which occurred in February was sufficiently serious to be reported to ministers under safety guidelines agreed after the Chernobyl accident. (1)

- (1) Guardian 20th April 2011 <http://www.guardian.co.uk/environment/2011/apr/20/radioactive-spills-breakdown-british-nuclear-plants>

10. Chapelcross

A £1.2m project has been launched to help offset the economic impact of the closure of Chapelcross. Hundreds of jobs will have gone by the time the decommissioning of the site is completed in 2017. The investment package is earmarked to support and stimulate businesses in the surrounding areas. The project is being financed by the Nuclear Decommissioning Authority through its social economic fund. The Beyond Chapelcross scheme will be delivered by Magnox Ltd, Chapelcross in partnership with the economic development department of Dumfries and Galloway Council. (1)

- (1) BBC 27th May 2011 <http://www.bbc.co.uk/news/uk-scotland-south-scotland-13572440>
Cumberland News 28th May 2011 <http://www.cumberlandnews.co.uk/1-2m-to-soften-blow-of-nuclear-job-losses-1.841893?referrerPath=business>

11. Dounreay Particles

Offshore clean-up contractor Land and Marine recovered 50 particles from the seabed before bad weather caused a suspension of its operation between 6th and 16th May. The company's platform, the 60m-long barge LM Constructor, was towed to shelter in Thurso Bay during bad weather. (1) Work resumed on 30th May. (2)

- (1) DSRL 17th May 2011 <http://www.dounreay.com/news/2011-05-17/rough-sea-halts-cleanup>
- (2) DSRL 1st June 2011 <http://www.dounreay.com/news/2011-06-01/particle-cleanup-resumes-offshore>

12. Faslane & Submarines

- The massive crane that lifts fully armed nuclear submarines out of the water at Faslane has 22 safety “shortfalls” and could suffer a nuclear disaster, according to a secret Ministry of Defence (MoD) report. If the crane collapsed there could be an “inadvertent detonation” of Trident missiles that could lead to a “major strategic weapons system accident”. (1)
- Britain's nuclear submarine reactors are twice as likely to suffer a catastrophic accident as US submarine reactors and civil nuclear power stations, according to a secret MoD report. The pressurised water reactors, known as PWR2, are vulnerable to Fukushima-style loss of coolant accidents if they develop cracks larger than 15 millimetres. They also rely on manual cooling in an emergency, rather than a system that automatically injects coolant into the reactor. These are the revelations that the MoD meant to censor from a report by its senior nuclear safety regulator, Commodore Andrew McFarlane. The report was released online in a form that enabled text that had been blacked out to be seen simply by cutting and pasting it into another document. (2) In a UK parliamentary answer to SNP defence spokesman, Angus Robertson, in April, the defence minister, Peter Luff, disguised the fact that the reactors have cooling systems which make them vulnerable to a major loss-of-coolant accident. (3)
- The safety of the nuclear bombs and submarines on the Clyde is being increasingly jeopardised by spending cuts, an MoD report has warned. The public, military personnel and the environment could be put at risk of accidental explosions, spillages or radiation leaks, according to a new assessment by the MoD's internal watchdog, the Defence Nuclear Environment and Safety Board. (4)

- (1) Sunday Herald 3rd April 2011 <http://www.robedwards.com/2011/04/revealed-the-22-safety-shortfalls-of-scotlands-nuclear-crane.html>
- (2) Robedwards.com 18th April 2011 http://www.robedwards.com/nuclear_power/
Caledonian Mercury 18th April 2011 <http://politics.caledonianmercury.com/2011/04/18/the-submarine-reactor-risks-the-mod-didnt-want-you-to-know-about/>
- (3) Sunday Herald 24th April 2011 <http://www.heraldscotland.com/news/home-news/mod-accused-of-misleading-mps-over-safety-of-submarine-reactors-1.1097713>
- (4) Caledonian Mercury 6th June 2011 <http://politics.caledonianmercury.com/2011/06/06/cuts-could-endanger-nuclear-safety-warns-mod-report/>

Annex: Call for Hunterston Study

Fergus Ewing MSP,
Minister for Energy, Enterprise and Tourism,
St. Andrew's House
Regent Road
Edinburgh
EH1 3DG

From FoE Scotland, WWF Scotland and NFLA Scotland.

Dear Mr Ewing,

Nuclear power in Scotland

We write belatedly to congratulate you on your comments following the announcement that Germany is to phase out nuclear power. (1) We agree that Scotland is "*ideally placed*" to follow a similar route. (2) However, we also want to express our concern that Hunterston B is already preparing its case for a further life extension beyond 2016, and enquire if the Scottish Government would consider commissioning an independent study on the risks of continuing to operate 35-year old graphite moderated reactors.

We agree with you that there is a "*growing international realisation*" concerning the difficulties associated with nuclear power, and as you will know we have welcomed the Scottish Government's target of generating 100 per cent of Scotland's electricity needs from renewables by 2020.

The eight reactors which Germany has already shut down were opened between 1975 and 1984. Hunterston B, which was opened in 1976, is older than or the same age as all but one of them. 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 the West's ageing reactors have been significantly increasing over the last few years and the likelihood of accidents occurring is now higher than ever before. Age-related degradation mechanisms are not well understood and are difficult to predict. (3)

The two reactors at Hunterston B will be forty years old in 2016 when they are currently scheduled to close. It was therefore with concern that we read that EDF Energy is preparing its case for an extension to 2021. (4) Trade Unions at Hunterston are said to be confident that evidence presented to the regulator for the periodic safety reviews will result in agreement to a significant life extension for Hunterston B until 2021 or 2026. (5)

We understand that the Scottish Government has very limited official powers in the Periodic Safety Review process. However, we believe that it could well be possible to influence the outcome by commissioning an independent study on the risks of continuing to operate 35-year old graphite-moderated reactors, and extending the life of such reactors beyond 2016. There are several consultancies capable of carrying out such a critical analysis. For example, Large Associates reported in 2006 on problems at Hunterston B's sister station, Hinkley Point B. The Large Associates report analysed a bundle of documents received under the Freedom of Information Act concluded that there are:

"...significant uncertainties over the structural integrity and residual strength of the moderator cores in ...AGR plants [including Hunterston] ... 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". (6)

We therefore ask you to commission an independent study on the risks associated with continuing to operate Hunterston B.

We look forward to hearing from you.

Yours sincerely,

Stan Blackley, Chief Executive, Friends of the Earth Scotland

Dr Richard Dixon, Director, WWF Scotland.

Councillor Euan McLeod, Chair Nuclear Free Local Authorities (Scotland)

- (1) Scottish Government Press Release 30/05/2011
<http://www.scotland.gov.uk/News/Releases/2011/05/31082406>
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