

# Nuclear Free Local Authorities

# briefing



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No.115

Subject: Tackling climate change with a low carbon energy policy – the Scottish example

## 1. Introduction

This NFLA Policy Briefing has been prepared by the NFLA Scotland Policy Advisor and was presented to the NFLA Scotland Forum meeting in Stornoway on the 23<sup>rd</sup> August. Members of the Scottish Forum felt the detail of this report, particularly in reference to the development of renewable energy, should be shared with the other NFLA National Forums and more widely across local government and environmental groups. The NFLA Secretary has adapted parts of this report accordingly. It directly follows on from NFLA Policy Briefings on developing low carbon energy policies across the UK and Ireland. All of these reports can be found on the NFLA website.

## 2. Climate Change

It is clear the world is going to have to make some serious reductions in carbon emissions over the next 15 years to have any chance of avoiding dangerous climate change. 97% of climate scientists now agree that humans are causing global warming, so because this subject has such a huge impact on the nuclear debate it is worth having a look at some of the numbers involved. (1)

There are three important numbers (2) to look at:

1. **2°C** - every signatory to the UN Copenhagen Climate Talks in 2009 agreed that it is critical that average global temperatures should not rise above this number.
2. To have a reasonable chance of staying below 2°C future carbon emissions should not exceed **565 billion tons (Gigatonnes/Gt)**. The problem is that 30Gt is being released every year, and this is going up at 3% a year. That means in about 15 years the threshold is reached.
3. The number of tons of carbon in already proven fossil fuel reserves is **2795Gt** - five times the amount needed to take the planet over the 2°C warming threshold. (3)

Three things stem from this. Firstly, there is a pressing need to start making big reductions in emissions now, not in ten years time when Hinkley C might start operating, or 15 years time when Wylfa and Oldbury might open. Secondly, if there is a decision to develop shale gas extraction, there has to be a legal mechanism to keep other fossil fuels in the ground. Thirdly, there is an urgent imperative to develop renewable energy, energy efficiency and microgeneration to mitigate climate change and help tackle fuel poverty.

A report for the World Bank states that a global average temperature increase of 4°C could be potentially devastating: the inundation of coastal cities; increased malnutrition; many dry regions becoming dryer, wet regions wetter; unprecedented heat waves in many regions, especially in the tropics; substantially exacerbated water scarcity in many regions; increased intensity of tropical cyclones; and irreversible loss of biodiversity, including coral reef systems. (4)

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### 3. Climate Plans - RPP2

The finalised Scottish Climate Change Plan (RPP2) was published on 27<sup>th</sup> June 2013. (5) As with other parts of the United Kingdom and the Republic of Ireland, Scottish environment groups argued the Government had only improved the presentation and design of the draft report without radically changing the substance of it. They argued Ministers had failed to adequately listen to stakeholders and a wide range of MSP's to introduce new radical and ambitious proposals. (6)

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. (7) A Scottish Parliamentary Information Centre (SPICE) briefing provides a useful summary of it. (8)

In June 2013 it was announced that Scotland had narrowly failed to meet its climate change targets for the second consecutive year. (9) Emissions exceeded the official target by 0.8m tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) in 2011 and 1.1m tonnes in 2010. The Scottish Government insisted the statistics showed Scotland was still on track to meet its overall goal of reducing greenhouse gas emissions by 42% by 2020. Environmental campaigners described the figures as disappointing, but Climate Change Minister Paul Wheelhouse insisted that Scotland's overall figures were still the best in Europe, with a near 30% cut in emissions against 1990 levels. (10)

Scottish environment groups urged the government to "up its game", and produce more radical policies in the finalised RPP2. They argued that the missed target underlined the Government's reluctance to take tough action on transport emissions, coal production and energy efficiency. (11)

Energy Action Scotland said emissions from housing make up a quarter of emissions in Scotland. Meanwhile, more than a third of Scots live in fuel poverty. Tackling climate change tackles fuel poverty, creates jobs in energy insulation and saves money on healthcare costs - preventative spend at its best. It called for radical improvements to the draft RPP2. As part of the Existing Homes Alliance coalition Energy Action Scotland is calling on the Housing Minister to bring forward minimum standards of energy efficiency in Scotland's housing. (12)

The finalised RPP2 was criticised by Tom Ballantine, chair of Stop Climate Chaos Scotland (13). He said the plan is not the step change required to deliver the Climate Change Act especially as the first two targets have been missed: "*...recommendations from MSPs from all parties and stakeholders have not resulted in any significant change to this important plan. Relying on vague proposals, with delayed action until the mid 2020s, instead of financed policies in the short term, tells us that some Ministers are still not taking this anywhere near seriously enough.*" (14)

### 4. Scottish Energy Efficiency Action Plan (EEAP)

In May 2013, the Scottish Government published a formal review of its Energy Efficiency Action Plan. (EEAP), (15) originally published in October 2010. (16) The Climate Change (Scotland) Act 2009 requires annual energy efficiency targets, an annual progress report and a formal review within 3 years. This first review says Scotland is on target to reduce energy consumption across all sectors by 12% by 2020 (compared with a 2005-2007 baseline).

The Sullivan Report - 'A Low Carbon Building Standards Strategy for Scotland' - published in 2007 which recommended improving building standards so that all new buildings are net zero carbon buildings by 2016/17 is being re-visited because of the economic downturn. Andrew Warren, Director of the Association for the Conservation of Energy (ACE), has written to Finance Secretary John Swinney and Local Government and Planning Minister Derek Mackay, expressing concern about the delay in implementing the tough new measures and watering down some requirements because it will have a "severe and damaging" affect on businesses. (17)

Regulations are being developed under the Climate Change Act to require the energy performance of existing non-domestic buildings to be assessed; new energy efficiency standards

for social housing will be introduced in summer 2013, and there will be a consultation by spring 2015 on draft regulations for a minimum standard for private sector housing to be introduced in 2018.

There is more information on the efficiency standards in Scotland's Sustainable Housing Strategy. (18) The Scottish Government is committed to developing regulation for the private housing sector and has established a working group to do this. The success of standards in the social rented sector shows that minimum energy performance standards can cut fuel poverty and transform cold, damp houses into warm, dry homes. However, the Existing Homes Alliance recommends that new performance standards should be applied from 2016, rather than 2018 – a date which gives an ample lead-in time for landlords and home owners. It will drive demand for the Green Deal and ECO, and lead to jobs and supply chain opportunities in Scotland (19)

The Sustainable Housing Strategy also says that by 2020, all homes should have loft and cavity wall insulation where this is possible and every home with gas central heating should have an energy efficient boiler with appropriate controls. Over 2013/14 the Government is investing £79 million to help people to keep their energy bills down with thousands of homes across Scotland receiving new measures like solid wall insulation and better heating systems. The Government says it is actively working with councils and energy companies to ensure that Scotland continues to get its fair share of funding for efficiency programmes.

An interest-free loan scheme was unveiled at the beginning of August 2013. Loans of up to £10,000 will be available for home owners to adopt a range of renewable heat and electricity technologies, such as heat pumps, solar panels, micro-wind turbines, or biomass boilers with funding directly targeted at homes in fuel poverty, allowing households to access subsidy schemes, such as the feed-in tariff for renewable electricity generation or the Renewable Heat Premium Payment, and then use the new income to pay off the loans. The move is in stark contrast to the UK Government's Green Deal energy efficiency loan scheme, which has been criticised for offering interest rates of around 7% and is to be welcomed. (20)

## **5. Scottish District Heating Plan**

The Scottish Government has published a District Heating Action Plan (21) in response to an Expert Commission on District Heating which delivered its recommendations in November 2012. (22) The Action Plan sets out a roadmap for working in partnership with the wider public sector, business and industry to support the development of district heating in Scotland.

The Scottish Government's Outline Heat Vision (23) sets out ambitious plans to decarbonise Scotland's heat supply by 2050, with significant progress by 2030. There needs to be a holistic approach to how heat is delivered, to ensure a long-term affordable and sustainable heat supply for the future. A large-scale heat network may take heat from several sources including gas-fired Combined Heat & Power (CHP) plants, renewable energy such as geothermal, solar and biomass, stored heat from intermittent renewable electricity generation and heat recovered from industrial processes. Scotland now has district heating schemes varying in size from a handful of buildings on farmsteads to thousands of homes in urban areas like Glasgow and Aberdeen. And there is even greater opportunity for expansion, to create large-scale integrated heat networks to heat our towns and cities.

The Government is working with registered social landlords to see how district heating can help them gain more control over the costs of heating for their tenants. Aberdeen City Council's gas-fired CHP scheme for example is reducing carbon emissions by up to 45% across all the buildings in the scheme. Networks heated by gas may be the most straightforward to build initially, creating the infrastructure needed to connect more renewables and low carbon heat supplies such as recovered heat in the future.

The Scottish Cities Alliance is committed to rolling out the Heat Mapping Programme for Scotland, with heat maps completed for Inverness and Perth, and it is about to start in Edinburgh and Glasgow. Aberdeen Heat & Power are continuing to extend their heat network, with a heat main now taking the system into the city centre. Sustainable Glasgow has set up a District

Heating Strategy Group to develop proposals for an integrated city network, to coordinate major public and private projects currently in planning and development. And in Wick a biomass district heating scheme is providing heat to the Pultneytown Distillery and social housing, with plans for further expansion.

The plan includes a Call for Evidence on the investment needed in heat networks over the next few years. In particular, to address the barriers to creating large-scale integrated heat networks, with the capacity to expand in the future.

WWF Scotland said “*this action plan is a welcome first step in tackling this. However, if we are to match the ambition of countries such as Denmark, where more than half of all homes are connected to district heating, all the recommendations from the Expert Commission need to be fully adopted.*” (24)

## **6. Recent offshore wind development in Scotland**

Seagreen Wind Energy, a joint venture partnership between SSE Renewables and American firm Fluor, has lodged a planning application with Angus Council to build 12 miles of underground cabling to help carry electricity from what is planned to be Scotland's largest offshore wind farm in the Firth of Forth Offshore Wind Zone to the national grid.

The company applied to Marine Scotland in October 2012 for permission to build the first phase which is two wind farms of 75 turbines each, with a total capacity of 1050 megawatts (MW) (1.05GW). If permission is granted for the developments they would be located 16.7 miles and 23.6 miles off the Angus coast. (25) The Firth of Forth Zone of the UK's Round 3 offshore wind farm development programme has a potential installed capacity of 3.5GW. (26)

Around 3 wind farms – which include the Moray Firth (capacity 1.3GW) (27) and Firth of Forth – (28) will operate at depths never tried before and far from shore, using unproven giant turbines twice as tall as Big Ben. Manufacturers will only build the factories if they get enough turbine orders from wind farm developers. But one reason developers are reluctant to place orders is because these turbines have not been proved to withstand rough seas and strong winds. More special test sites, such as the one in Aberdeenshire opposed by Donald Trump, would help break this Catch-22. The Carbon Trust says Trump's opposition to a small offshore wind test site near his golf course could cost Britain dear in terms of building a renewable energy manufacturing base. (29) Scottish Energy Minister Fergus Ewing has announced a £15m fund to help develop prototype foundations for deep-water offshore wind turbines. (30)

Concrete for the foundations of another offshore wind turbine testing facility at Hunterston was slated to be poured at the beginning of July after a delay due to “variable ground conditions” found at one of three berths at the site. Mitsubishi plans to install its flagship 7MW SeaAngel and Siemens its 6MW SWT-6.0-154 machine at the SSE Hunterston Test Centre for Offshore Wind (HTCOW), which is due to open for business by October this year. (31)

Energy Minister Fergus Ewing has granted consent for a 7MW offshore demonstration wind turbine to be built at the Fife Energy Park in Methil. The development for Samsung Heavy Industries will test new designs and models for offshore wind turbines to increase the reliability and efficiency of the power they produce. (32) The demonstration turbine will include the world's longest wind turbine blades - 83 metres long - which are already on their way by road and sea from Denmark to Fife. (33)

Methil is owned by Forth Ports which also has sites in Dundee and the Leith – ports which could also profit from wind power. (34) Dundee has launched the new Offshore Renewables Institute which aims to commercialise and exploit expertise from seats of learning on Scotland's east coast in support of the region's burgeoning energy sector. (35)

Meanwhile the Neart na Gaoithe offshore wind farm, which is also in the Forth Estuary, but was part of the earlier Scottish Territorial Waters licensing Round rather than Round 3, has been granted planning permission by East Lothian Council to lay a cable to take electricity from

Thorntonloch beach near Torness to a substation at the Crystal Rig onshore wind farm in the Lammermuir Hills. (36) Mainstream Renewable Power expects a decision later this year from Marine Scotland on planning permission for its 90 turbines, with a capacity of 450MW. (37)

## **7. Tidal potential**

The world's best site for tidal power, the Pentland Firth, could provide half of Scotland's electricity, according to the first robust estimate of its potential. The tidal streams, which surge through the firth at five metres per second, could bring large amounts of renewable energy in reach within a decade if enough government support is available, said the Oxford University engineer behind the new study.

The engineers calculate that underwater turbines strung across the entire width of the firth could generate a maximum 1.9GW of energy, averaged across the fortnightly tidal cycle. That is equivalent to 16.5 terawatt hours (TWh) of electricity a year, almost half Scotland's entire annual electricity consumption in 2011. As Scotland already produces 14.6TWh a year of renewable energy, a fully exploited Pentland would bring Scotland close to its aim of 100% renewable electricity by 2020. (38)

The estimated tidal potential will be a disappointment to some though, according to some of the media. (39) According to *The Guardian* the Scottish Government had previously estimated that tidal power capacity could be around 14GW giving the country a huge potential for electricity exports – but this number has since been removed from the Scottish Government website. A 2011 Garrad Hassan Report on Scotland's Renewable Resource suggested that Tidal Energy from all over Scotland – not just the Pentland Firth, might have a potential of 7.5GW and wave energy could have a potential of 14GW. (40) A document published in 2009, Scotland's First Marine Bill, repeated these numbers. It said adding Wave, Tidal and Offshore Wind together gives a marine energy potential of 46.5GW. (41)

Fergus Ewing says three leading tidal energy projects in Scottish waters have recently secured financial support from a European Commission fund and a UK government scheme. This will allow the Scottish Government to dedicate its £18m Marine Renewables Commercialisation Fund (MRCF), which was launched last year, to the wave energy industry. (42)

## **8. Wave power seeks to move forward**

The Scottish Government has given the green light for the world's largest wave power scheme, to be developed off the coast of the Western Isles. Edinburgh-based Aquamarine Power has received full consent from ministers to develop a 40MW wave farm off the north-west coast of Lewis – the world's largest ocean energy site.

Aquamarine, through its wholly owned subsidiary Lewis Wave Power, plans to begin installing its "Oyster" wave energy machines at the site within the next few years, once the necessary grid connections have been put in place. The aim is to ultimately deploy between 40 and 50 of the wave power devices along the coast at Lag na Greine, near Fivepenny Borve. However, energy giant SSE announced last week that it would not be able to commission work on a Western Isles subsea electricity cable, costing more than £700 million, before 2017. (43)

## **9. Hydro-electric developments**

A £30m hydro power scheme in Ross-shire has been given planning approval. SSE will begin construction on the 7.5 megawatt (MW) Glasa scheme later this year. (44)

Meanwhile a backlog of applications for small-scale hydro schemes worth £23 million could be at risk if the UK government presses ahead with changes to its subsidy system, according to trade body Scottish Renewables. By the time these projects receive planning permission, they could be subject to a new tariff, which will be "considerably lower" than current levels due to the high level of applications this year. The industry wants the planned cuts – which could be as much as 20 per

cent from April 2014 – to be delayed so that the high number projects caught up in the planning system does not disproportionately affect support for future schemes. (45)

A proposed community-run hydro-electric project in Edinburgh has managed to raise more than the £300,000 towards the cost of building the scheme. Local residents of Balerno have been working on the bid for two years. Construction will begin within months and is estimated for completion in March 2014. The Balerno Village Trust – which established Harlaw Hydro – had intended to borrow much of the money from the banks, but said they were astonished at the level of interest from those who wanted to invest privately. (46)

## 10. Biomass

Consent has been granted to develop a £465m wood-fuelled heat and power plant at Grangemouth. Forth Energy said the 18-hectare site could be operating by 2017, burning wood mostly shipped from overseas. It is hoped the plant could create between 300 and 500 construction jobs and 70 posts based at the port, running the plant and handling the fuel. Energy Minister Fergus Ewing said: "*The construction of the combined heat and power plant at the Port of Grangemouth will create up to 500 jobs during construction and 70 permanent jobs, as well as generating up to 120MW of renewable electricity and 200MWth (megawatt thermal) of renewable heat for local business and industry.*" (47)

In Dundee councillors have decided not to support a similar biomass proposal triggering a public inquiry. Members decided to reject the recommendation by senior Council officers — a statutory consultee — should not object to Forth Energy's massive £325 million scheme. (48)

The Dundee plant is one of four originally planned by Forth Energy, which brings the harbour company, Forth Ports, together with the power company, Scottish and Southern Energy. A plant at Leith in Edinburgh was abandoned after significant protests, whilst a plant at Rosyth in Fife is awaiting a decision by ministers. (49)

If the three remaining plants are built, they will be fuelled by importing a total of 1.7 million tonnes of wood chips and pellets every year from felling forests in North America and elsewhere. Forth Energy claims that this will cut climate pollution, but this is disputed by environmental groups.

## 11. Island Energy

Renewable energy projects could create more than 10,000 jobs on the Scottish islands by 2030, according to a report by energy consultants Baringa Partners and TNEI for the Government. Investment in wind, wave and tidal energy will bring significant socio-economic benefits to the Western Isles, Shetland and Orkney and could establish Scotland as a world leader in marine technologies. But the expense and difficulty of accessing the National Grid means the Government needs to weigh up the cost and benefits of developing renewable energy on the islands against other sources of electricity, the report said. (50)

Niall Stuart, chief executive of trade body Scottish Renewables, urged the government to address the problem of high-transmission charges. He argued that a cap on transmission charges or additional support for island generators would help bring down costs, while funds from the European Investment Bank could be used to help fund island grid infrastructure at a low rate of interest. (51)

Northern isles MP Alistair Carmichael said the findings vindicated local developers who had argued that the present system will not do. "*Having established that there is a case for island communities to be given a different charging system the next step now is to continue in our engagement with government to set up that system and to enable the development of renewable energy. This report also shows the potential for thousands of full-time jobs being created due to renewable developments. Locally, the economic implications could be huge.*" (52)

The report can be downloaded here: <https://www.gov.uk/government/publications/scottish-islands-renewable-project-final-report>

The Department of Energy and Climate Change has announced it is to consult this summer on the subsidy levels necessary to encourage investment in Island Energy. Highlands and Islands Enterprise called the move groundbreaking and "hugely welcome". The process will determine the "strike price" to ensure the producer has a minimum level of income. Responding to pressure from renewable energy developers in Orkney, Shetland and the Western Isles, the DECC statement said it intended "*to consult in the summer on additional support for renewables projects located on islands, where these have clearly distinct characteristics to typical mainland projects*". It added: "*This is on a timetable to allow a differential strike price to be set for these projects in the final delivery plan in December.*" (53)

Western Isles Council, which has hopes that renewable-energy schemes could reverse a steady population drift away from the islands, was extremely disappointed to discover that the cost of building an inter-connecting subsea cable had risen to more than £700 million. The high price meant that the cost of building the line could not be recovered from generators, stalling a 130 megawatt wind farm proposed by Lewis Wind Power, which was estimated as likely to bring 75 jobs to the islands. Orkney and Shetland Councils face similar barriers but now progress has again become possible with the acceptance by the UK Government that there should be a special islands pricing regime. (54)

Meanwhile, Western Isles Council has also moved to establish a specialist project team that will come up with a detailed business plan for the Outer Hebrides Energy Supply Company (OHESC). Following the Energy Act in 2010, which gave local authorities the power to generate and sell their own electricity, the council commissioned the local specialist firm Greenspace to look into the proposal. They found that the OHESC "*constitutes a very exciting prospect for the islands*", which could be replicated across the Highlands and the islands. The favoured model suggested by Greenspace is a joint venture with an existing major player, such as SSE or EDF, which has a share in one of the major wind farms planned for Lewis. (55)

## 12. Local & Community Energy

Scotland is ahead of schedule in meeting targets for community ownership of renewable energy projects, according to the Government. As of June 2012 more than 200MW of renewable generating capacity came from community and locally owned energy projects. This represents 40% of the 500MW target for 2020 set out in the Scottish Government's Routemap for Renewable Energy. Across the country, more than 5000 such projects now provide renewable heat and power both for local use and for the grid. (56)

On the other hand, Gregory Dix, of Savills Energy, is challenging claims by the Energy Saving Trust that Scotland is on track to achieve its community renewable target of having 500 megawatts of community and locally-owned renewable energy schemes in place by 2020. Mr Dix said the figures published by the trust relied too heavily on farms and estates, which accounted for 33 per cent of the total, with a further 31 per cent being accounted for under housing association developments and local business developments. Under the "real definition of community" the total capacity of renewable energy so far installed in Scotland was only 26MW. Mr Dix pointed out that 167 megawatts of future projects was accounted for by the controversial Viking Wind Farm development in Shetland, partly owned by the Shetland Charitable Trust. (57)

Community Energy Scotland has helped 1400 projects get up and running in eight years. The earliest ones like Ghigha and Westray are shining examples while £100,000 annual profit from the Shapinsay project has funded a local transport system and an out-of-hours ferry service. The beauty of all of this is that local people determine local priorities, having planned and built small local energy schemes to their own specifications and spent the proceeds according to their own priorities. (58)

Recent local energy projects include:

- A five-acre solar meadow with more than 2,500 solar panels at the Midlothian campus of Edinburgh College in Dalkeith. Designed and installed by SSE Energy Solutions at a cost of

£1.2m it is expected to save the college tens of thousands of pounds on energy bills every year. (59)

- The people of Neilston in East Renfrewshire bought a 28% share in a £15.6m wind farm with partners Carbon Free Developments. Neilston Development Trust (NDT) raised £950,000 to buy their stake, loaned by the Scottish Government and other organisations. It will give Neilston about £10m of income over the life-time of the development. (60)
- Bristol beat Glasgow in the race for the European Union's 2015 European Green Capital award. Bristol impressed the Jury with its investment plans for transport and energy. Meanwhile Glasgow continues to look at ways to heat homes using water trapped in the abandoned mines underneath parts of the city where the coal came from that helped fuel the city's industrial development. It has been estimated that up to 40% of Glasgow's heat could be generated in this way, which promises a dramatic fall in emissions compared to conventional power sources. (61)
- The Isle of Muck - home to 38 people has secured £978,840 from the Big Lottery Fund and contracted a renewable energy company, Wind & Sun to design and build a renewable electricity system. Using wind turbines from a British manufacturer, Evance Wind Turbines, alongside solar panels and a backup diesel generator, the system provides more than enough power for the islanders. (62)
- Every street light in Scotland could be fitted with low-energy LED bulbs as part of ambitious plans to cut carbon emissions. The Scottish government unveiled proposals for the green investment bank (GIB) to fund the Scotland-wide LED lighting programme as part of a £500m package of climate and green energy measures. Scottish government officials admitted they did not know how many street lights were involved, or the eventual CO<sub>2</sub> savings or the total cost of this programme, but the 40,000 street lights in Aberdeenshire alone are responsible for 8,750 tonnes of CO<sub>2</sub>, with energy bills hitting £1.6m, and Fife council's street lights make up 10% of its total carbon footprint. (63)
- West Cumbria and North Lakes Friends of the Earth have launched a consultation on their new draft report – a Sustainable Energy Strategy for Cumbria. Comments from local authorities outside of Cumbria are welcome.  
See: <http://www.no2nuclearpower.org.uk/news/comment/towards-a-sustainable-cumbria-discuss/>
- Glasgow City Council is planning to set up its own green energy company to tackle fuel poverty, cut carbon emissions and create new jobs. Last year the council spent almost £26 million heating buildings including schools, libraries, sport centres and museums and on powering street lights. Studies have now been carried out into harnessing hydro power from the rivers Clyde and Kelvin and generating power from waste at the Polmadie treatment plant. Experts have also investigated creating centralised heating networks similar to the hi-tech system used in the Commonwealth Games Athletes' Village. A number of green energy projects have been tested, including wind turbines on the Cathkin Braes and solar panels at St Benedict's primary in Easterhouse. Glasgow Energy Services Company (GLESCo) could be one of the largest such schemes in Europe. (64)

### 13. Unconventional Gas

Dart Energy, the company behind plans to drill for coal bed methane around Airth in central Scotland, said it expects ministers to take up to a year to rule on the controversial proposals. The unconventional gas specialist aims to drill 22 wells at 14 sites to bring its coal seam gas project at Airth to development. It appealed to the Scottish Government to rule on its application after its "non-determination" by Falkirk and Stirling councils, which said the plans raised environmental issues and public concerns to be addressed. (65)

Meanwhile Algy Cluff, who discovered one of the UK's biggest oilfields in the 1970s, has been granted a licence to set fire to coal beneath Largo Bay and pipe the gas to shore. The picturesque bay is one of a number of UK locations where the entrepreneur has permission to drill, having been given licences for more than 76,000 acres of Britain's seabed. (66)

## 14. Conclusion and recommendations

This detailed and well researched report gives clear evidence of the way Scotland is leading the way in developing renewable energy in the British and Irish Isles. Scottish Councils are a key component of this successful policy. Important barriers do exist to continue with this momentum and they need to be carefully considered by Scottish Councils, the Scottish Government and the UK Government. The decision in Scotland not to waste important time to develop new nuclear power stations has been important in the success of this policy. Scottish environmental groups urge the Scottish and UK Governments to be ever more ambitious in pursuing such policies in the pressing campaign to mitigate the effects of climate change. The NFLA also encourages its own members to be bold in promoting renewable energy, energy efficiency and microgeneration.

The NFLA recommends that this report is distributed widely to Scottish councillors and council officers to inform the energy debate in Scotland, and that both NFLA members and non-members in England, Wales, Northern Ireland and the Republic of Ireland also disseminate the report for the encouragement of renewable energy projects in their own locality.

## 15. References

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