

NFLA Policy Briefing No.182



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Subject: **Keeping up with Energy – a report on the APSE (Association for Public Service Excellence) Energy Summit 2018 from the NFLA Scotland Policy Advisor**

i. Overview of Briefing

This report gives an overview of the APSE Energy Summit 2018 which took place in Stirling. It was attended by the NFLA Scotland Policy Advisor Pete Roche on behalf of Claudia Beamish MSP. NFLA thanks Pete and Claudia Beamish for permission to reproduce the report. Much of it was also discussed at the recent NFLA Scotland Forum meeting. APSE Energy provide support and promote best practice in the development of renewable and decentralised energy in the UK. NFLA has quoted from their reports a number of times, and their work has been included in the NFLA's annual reports on the 'state of play' in decentralised energy and best practice examples. This report is provided for its member authorities so that they can keep apprised of new and interesting policy developments. The report has been produced by the NFLA Policy Advisor as a delegate to the conference. They are his own views on the conference, as well as from his own extensive knowledge on decentralised energy.

Presentations from the conference are at: <http://www.apse.org.uk/apse/index.cfm/local-authority-energy-collaboration/apse-energy-events/past-events/the-apse-energy-summit-2018/>

1. Preface

There were two main themes to the APSE Energy conference. Firstly, what local authorities are doing in terms of setting up Publicly Owned Energy Companies (POECs) and what this can tell us about the Scottish Government's plans to set up a POEC. Secondly, it looked at what local authorities in Scotland are doing to implement the Scottish Government's policies on energy efficiency.

2. Introduction

The 'Energy Revolution' is already happening across the UK and local authorities should be at the forefront of it. A few pioneers, like Nottingham and Bristol are leading the way, but others need to catch up quickly. Local government is fast becoming established as the democratic route to engaging the community in decisions about clean energy and low energy buildings. Local authorities offer the opportunity to share the benefits of the energy revolution equitably. With planning powers, a large number of public buildings, a fleet of public vehicles, and responsibility for social housing, economic regeneration, transport and social care they are in a unique position to play a major role in this 'revolution' as well as being critical to delivering on carbon targets, keeping energy bills down, tackling fuel poverty, improving health and creating jobs.

3. Local Authority Pioneers

a) **Nottingham City Council** established the first local authority owned not-for-profit energy company – Robin Hood Energy – to tackle the problem of fuel poverty head on. It sources energy from the wholesale market, but also feeds in power from the city's incinerator, solar panels and waste food plants, as well as any other viable renewable energy source.

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The fundamental issue for Nottingham has been to generate a surplus. Skilled people have been recruited from renewable industries. Finance raised by the Council from the EU has also been used to innovate, in the expectation that costs for future projects – for instance retrofitting houses - will eventually come down.¹ Salix Loan Funding is also used to the maximum. Local authority budgets are used where there are returns to be made. The local authority estate has also been taken to a high level of dynamic energy efficiency solutions.

The number of renewable energy projects run by the council is very impressive. For example the Harvey Hadden Sport Village is now the site of UK's first publicly owned solar carport; with 448 thin-film solar panels – 67kWp covering 40 parking bays. This has been followed up with an even larger carport installation with 354-panels at the Ken Martin Leisure Centre – an 88.5 kWp system across nine separate, specially-built roofs. (See <https://www.evoenergy.co.uk/case-studies/ken-martin-leisure/>) Lessons learnt from the Harvey Hadden Sport Village have been applied at Ken Martin Leisure Centre, reducing costs and increasing returns.

Other projects include 600 solar panels – 150kWp - installed above the eight indoor courts at Nottingham Tennis Centre (see <https://www.evoenergy.co.uk/case-studies/nottingham-tennis-centre/>); Victoria Leisure Centre now has 172 PV panels on its roof (47kWp, see <https://www.solarpowerportal.co.uk/news/nottingham-city-council-opens-up-multi-million-pound-solar-framework>), and the Minver Sports Centre has 175 PV panels (49kWp).

Nottingham City Council plans to invest £3m in solar energy in the five years from 1st January 2018. It has already delivered 40 solar systems - 12MW – which is saving the council around £90,000 on energy bills. (<https://www.nottinghampost.com/news/nottingham-news/council-expects-invest-3m-solar-1000878>)²

For more on Nottingham see http://www.apse.org.uk/apse/assets/File/W_%20Bexton.pdf. A recent presentation from Nottingham's Robin Hood Energy on its work in this area, and on how it is supporting other Councils in developing 'white label' energy companies, is being placed on the NFLA website shortly.

b) Bristol City Council also has a fully licensed energy company – Bristol Energy – which supplies 78,000 homes and 25,000 businesses. Bristol Energy offers competitive rates, excellent customer service and flexible Power Purchase Agreement (PPA) terms to buy renewable electricity from community projects, farmers and individuals regardless of the size (above 50kW) and technology used.

Bristol is the only Council with a civic wind farm with two wind turbines – 3MW each at Avonmouth. Bristol City Council is also investing in solar energy on council-owned buildings and schools. (<https://www.bristol.gov.uk/policies-plans-strategies/council-use-of-renewable-energy>) It now has over 8MW of solar capacity across the City. Bristol City Council is offering Power Purchase Agreements to all companies in Bristol in an attempt to achieve its target of reducing the City's carbon emissions by 40% by 2020 (compared to 2005), whilst also reducing the City's energy usage by 30% in the same period. By 2050, the Council also wants the City's energy supply to be supplied entirely by renewable energy.

The Council has also established a best-practice community energy fund, to support over 50 local community groups with sustainability and energy efficiency projects; it has invested nearly £2m in energy efficiency refurbishments across council-owned buildings, which helps save £1m annually on energy bills; and it has launched the first section of a low-carbon and lower-cost heat network in Redcliffe and Temple Quarter; as well as several mini heat networks for social housing across the city. (See <https://www.bristol.gov.uk/policies-plans-strategies/the-energy-service>)

4. Local Authorities can lead in the area of energy policy by for example:

- Imposing a Merton Rule (stricter building regulations for new buildings)

¹ See here for more on this <https://www.theiet.org/policy/media/press-releases/20181010.cfm>

² 12MW compares with the 1.38MW installed on Edinburgh schools by the Edinburgh Community Energy Soar Co-op. Nottingham City has a population of 306,000, so smaller than Edinburgh's 489,000.

- Encouraging Renewables
- Social Housing can be given batteries as well as PV;
- Local authority vehicles should be replaced with EVs;
- Retailers can be encouraged to install low carbon technology
- Solar canopies installed on car parks;
- Convert lampposts to EV charging points; (cables have spare capacity after switch to LED)
- Imposing constraints on diesel.

Dumfries and Galloway (D&G) Councillor Archie Dryburgh, the national chair of APSE, told the conference that D&G Council is looking at establishing a POEC for 5 borderland councils. D&G has 1,500 council buildings, and 1,500 vehicles. D&G Council wants to create a zero carbon region, for instance by increased on-site production of power; there is a desire to use local energy sources; a need to ensure resilient local supply; a focus on demonstrating proven low carbon technology while supporting innovation. The Council wants to see EV charging infrastructure on the route between Newcastle and Belfast and is looking at installing solar PV on the Chapelcross de-licensed site.

5. Scottish Publicly Owned Energy Company (POEC)

The Scottish Government is currently considering establishing a publicly-owned, not-for-profit energy company to support economic development and contribute to tackling fuel poverty. The Government wants the Company set up by the end of the current Parliament in 2021.

Neil Ritchie – the Scottish Government civil servant heading up the team working on setting up a publicly-owned energy company (POEC) – told the conference that a key theme of the Government’s Energy strategy is **local** solutions. Many councils already have Energy Service Companies (ESCOs) in place or ambitions to set up an ESCO. The POEC will be focused on delivery outcomes – building on success, not on re-inventing wheels.

The outline business case should be commissioned in October / November 2018.

Stakeholder sessions will be held, with one of them specifically just for local authorities. Consultations will also seek to discover where the POEC should not be involved.

The APSE Energy submission to the Scottish Parliament’s Economy Committee, says APSE has been advising local authorities on establishing a fully licensed energy company or a company operating a white label arrangement with an existing energy company. Its view is that the only way energy will prosper in public sector hands is at local authority level. A national government company is unlikely to be the answer, as a “bottom up” approach is required, not a “top down” approach. (See http://www.parliament.scot/S5_EconomyJobsFairWork/Inquiries/EEFW-S5-18-POEC-33-APSE-Energy.pdf)

(The NFLA’s submission on the same issue can be found at: http://www.nuclearpolicy.info/wp/wp-content/uploads/2018/08/A292_NB179_Scottish_energy_company.pdf.)

APSE believes that the government’s role should be facilitative, providing funding, help and assistance to ensure that the intervention in the market that is sought actually happens, without making that intervention directly itself. That way, the politicians succeed in achieving the outcome, without the risk or extensive resources required. The Scottish Government only needs to put in place the building blocks and all the main work should be undertaken at local authority level. The primary governmental role would be to raise awareness and encourage switching to the public sector entity.

A POEC is a different venture to a private energy supply company, with different goals and a more compelling unique selling point (USP). As such, whilst it cannot offer prices higher than everyone else (or it will not attract customers easily), it does not need to be the cheapest in the market. Such thinking promotes a “race to the bottom” on prices which risks public money. Publicly owned companies have to distinguish themselves from private companies and play to their strengths. They can do this by focusing on specific communities of real need in their area: disadvantaged areas, the fuel poor, the vulnerable, those in receipt of welfare benefits and so forth.

Local government has far better access to these groups. If the ESCO can secure them as customers they are unlikely to ever switch away as they want a service provider which they can trust. The offer is a constantly discounted price (though not necessarily the cheapest) along with good customer service. There are no profits paid to others in the private sector and all surpluses are fed back into critical public services. Finding the customers is key to the long-term success of the ESCO but it's not the regular switchers that a POEC wants - it is members of vulnerable groups.

With a wider role than just energy supply – energy services companies have a much more important role around encouraging the use of less energy and improving energy efficiency, for the wider benefit of the community. This is a powerful model but one that will not work for Central Government. This is because it does not have the same community links as exist at local level.

A properly planned and created fully licensed local ESCO has many advantages, both financial and non-financial:

- the effective addressing of the hugely difficult (and worsening) problem of fuel poverty;
- assisting people to understand energy better and to help them to help themselves to control and manage their bills;
- engagement with the community;
- creation of jobs and growth in the local economy;
- promotion of more renewable energy generation at local level;
- assisting with the demands on the electricity grid by smart controls and better usage.

Financial benefits could include surpluses that can be used to pay off the costs of establishing the ESCO and thereafter for investment in wider services, particularly those that cannot be funded in any other way such as energy awareness.

The Scottish Government's scoping note confirms that the rationale of a POEC is to address fuel poverty, provide greater choice for consumers, contribute to economic development and help to deliver wider Government ambitions on energy. APSE's main argument is that the Government does not need to establish its own ESCO to achieve these objectives.

Dr David Toke, Reader in Energy Politics, at the University of Aberdeen, who has provided his views on this matter to the NFLA, told the Scottish Parliament Economy Committee that a POEC could re-energise renewable energy in Scotland and deliver electricity at competitive prices for the consumer. The POEC could out-sell rival competitors by giving long term power purchase agreements to new renewable energy schemes. This will achieve a 'quality' selling point that will be unmatched by other electricity suppliers. Although various electricity suppliers boast that their supplies come from renewable energy, usually they only offer PPAs to renewable energy schemes that have been given support on Westminster incentive schemes, the Renewables Obligation and feed-in tariff. The Energy Company initiative should be backed by activities of the Scottish National Investment Bank to offer loans to new renewable energy projects. There are a number of potential renewable energy projects that can be implemented for prices at or below recent levels in wholesale power prices meaning that the Scottish Energy Company could give PPAs to such companies and deliver electricity to consumers at the same or lower prices than other electricity suppliers' (See http://www.parliament.scot/S5_EconomyJobsFairWork/Inquiries/EEFW-S5-18-POEC-14-DrDavidToke.pdf)

6. Local Authorities and Energy Efficiency

The Scottish Government's Energy Efficient Scotland Route Map is a 20-year plan to 2040 that sets out a common framework for mandatory energy performance upgrades in all existing domestic and non-domestic buildings and standards for new buildings. It is a key part of the 2017 Scottish Energy Strategy and 2018 Climate Change Plan. Local authorities are expected to work in partnership with government to ensure success, and selected local authorities are piloting integrated projects and costed delivery strategies.

Falkirk and the Local Heat and Energy Efficiency Strategy (LHEES) (Mari-Claire Morgan, Climate Change Officer, Falkirk)

Between November 2017 and February 2018 the Scottish Government consulted on the introduction of a statutory duty on local authorities to develop LHEES which would link the long-term targets and national policies to the delivery of energy efficiency and heat decarbonisation on the ground. They would allow local authorities to prioritise and target work, whether that is supporting owner occupiers and businesses to install energy efficiency measures, or encouraging the development of district heating and other low-carbon heat solutions.

The Scottish Government has given funding to 15 councils to fund pilot projects that will support homeowners and businesses installing energy efficiency measures and help local authorities develop LHEES. Of these 15 councils, most were given funding for a project in a small part of their area. Falkirk, on the other hand, was given funding to develop a pilot for the whole council area. (See Energy Efficiency Funding 17th June 2018 <https://beta.gov.scot/news/energy-efficiency-funding/>)

An Interim report on the projects set up to pilot the development of a Local Heat and Energy Efficiency Strategy (LHEES) was published in February 2018 - <https://beta.gov.scot/publications/lhees-pilots-evaluation-interim-report/>

Overall, the proposal for potentially placing a statutory duty on local authorities to develop LHEES was cited as a critical driver for local authorities taking part in the pilots - an opportunity to get a head start on learning what is involved and preparing to take on this potential duty and to influence national level discussions about LHEES, including contributing to the guidance details from Scottish Government.

Falkirk is focusing on transport; buildings - domestic and non-domestic and industrial links with energy and emission reductions. Falkirk stadium will be a low carbon hub with charging spaces for 26 electric vehicles and a solar canopy of around 2000m² to provide 300,000kWh of electricity. The electricity will provide power for the chargers and lighting with any surplus exported via private wire to the stadium. An investment of around £900k has been provided, which includes an electric bike hire scheme.

On non-domestic buildings the council is working on a pilot with LED Lighting, solar PV and CHP. There has been positive feedback from schools and care homes that have been completed for LED lighting. This is on course to save £120k per year from a £850k spend. The LHEES funding also allows for an overall appraisal of what would be required in public buildings to bring them up to the required energy performance. On domestic buildings the council is extending its district heating network to three further high rise blocks and installing air source heat pumps in a further three tower blocks.

South Ayrshire Energy Agency – working across 3 local authority areas.

Funding from the Scottish Government (SG) for the Home Energy Efficiency Programme – Area Based Schemes (HEEPS – ABS) goes direct to the local authority. Previously with the Cavity Wall Scheme funding went via the Energy Saving Trust. 90-92% of cavities are now filled. SG now wants to do solid wall insulation – targeted at low income areas.

Area Based Schemes can fund External Wall Insulation (EWI) for mixed tenure streets – previously private house often got missed out. The Cost of EWI can be between £6k and £15k per property – but fuel bills can be reduced by £200 per year.

Given the cost of the scaffolding various other works can be carried out at the same time (gutters; single-glazed windows; roof replacement). One project, for example – Whitletts in Ayr – involved a total renovation with works completed at a cost of £2k to private owners. If the owners don't pay, a charge can be put on the property so the council can recover the money when it is sold.

Mechanical ventilation with heat recovery is also installed if required. Surveys suggest improved respiratory health, pain reduction, improved mental health and a drop in hospital admissions.

7. The Smart Energy Revolution

Smart Local Energy, according to Ragne Low of the Centre for Energy Policy at Strathclyde University, could include:

- Smart Meters
- Half-hourly tariffs
- Demand-side flexibility
- Prosumers (a person who consumes and produces energy)
- Micro-generation and storage
- Peer-to-peer trading (as being organised by Centrica in Cornwall using Blockchain)

Dr Low notes that most of this applies to electricity; not so much heat and gas. So we need to ask how the smart energy revolution might be harnessed to support affordable warmth and the alleviation of fuel poverty.

Nick Gubbins of Community Energy in Scotland explained how community energy projects are leading the way in smart energy systems and pointing the way for the future.

For example:

- Orkney community turbine is able to direct surplus electricity to heat.
- Surf n Turf – converts surplus energy to hydrogen to power ferries;
- ‘Dumbiedykes’ in Edinburgh has a smart metering project.
- ACCESS (Assisting Communities to Connect to Electric Sustainable Sources) project on Mull – when the hydro scheme is likely to be constrained a message goes out to storage radiators (see <http://www.communityenergyscotland.org.uk/access.asp>)

Distribution Network Operators are seeing how community energy projects can support their transition to Distribution Systems Operators. This is democratising energy networks. Arguably, the successful integration of more local energy generation requires significant changes in electricity distribution network operation. Across the industry, distribution network operators (DNOs) have been drawing up plans and launching consultations on how they become distribution system operators (DSOs). The essence behind this change is for DSOs to be able to control and operate equipment in the distribution network more actively, thus creating local energy markets, allowing more local generation to be integrated and increasing the reliability and resilience of electricity supply.

8. Local Authorities and Electric Vehicles

(See Steve Cirell's Energy Blog for further information: <https://www.current-news.co.uk/blogs/no-time-like-the-present-for-public-sector-ev-fleets>)

The Green Alliance estimates that the UK Government has a fleet of 25,000 vehicles and local government has 50,000 vehicles. These figures do not include private vehicles used for local or central government business. If these various arms of government were to join together huge savings could be made in the procurement of EVs. Placing targets on the public sector could move the EV market ahead very quickly.

On top of this Vehicle-to-grid chargers could become a new source of income for local government.

There has been a massive investment in battery technology in the last few years. The original Nissan Leaf had a range of only 85 miles. The next generation of EVs will be able to travel 300 miles on one charge. There will be a full range of vehicles within the next two years. The average car does 20 miles per day and then goes back home. Most will be charged at home overnight. A 300 mile range is equivalent to enough electricity to power a house for 1.5 weeks.

EVs will be coming back to local authority depots probably with a 90% charge which could be sold by the local authority back to the grid during the peak (red zone) period of 4.30 to 7.00. The vehicles can then be charged up again in the small hours in time for the morning.

As the price of solar falls, more buildings will have PV installed with storage, and car parks will have solar canopies. New housing will need to calculate its impact on the grid; buildings will become mini power stations. Solar plus storage plus Vehicle-to-grid technology will change the energy system.

Octopus Energy now offers a tariff with electricity costing 30p/kWh during the evening peak (4.30 to 7pm), but for the rest of the day it costs 5p/kWh. So anyone with a battery or an electric vehicle can probably get all of their electricity at 5p/kWh.

9. Conclusions

The presentations from this excellent conference emphasised the dynamic ways Councils can improve the local energy market and develop low carbon energy generation, storage and efficiency projects. 'Trailblazers' like Nottingham and Bristol Councils have shown imaginative and innovative energy schemes, with strong political and financial support, that have both a social benefit to the local community, promote low carbon renewable energy generation and can also provide a profit that can be transferred back to Council budgets, at a time of deep financial austerity in local government.

The conference also showed that the potential of a Scottish Government publicly-owned energy company could provide, if developed in a sensible way, real value to the creation of dynamic decentralised energy projects. Such schemes should also be considered by the UK, Welsh and Northern Irish Governments. It is also worth considering by the Republic of Ireland Government.

Councils should play a central role in the development of both energy efficiency and renewable heat and transport projects, and the conference provided some useful background in these areas.

NFLA will continue to also seek to develop best practice and encourage innovative and imaginative policies to support its member authorities in how they could embrace such dynamic decentralised energy schemes. It is pleased APSE Energy is also providing such useful and excellent support to its members.

Pete Roche, 11th October 2018 and presented in a report to the NFLA Scotland Forum meeting on the 8th November at East Ayrshire Council Offices.