



## Welsh Government

### Locally owned renewable energy: A call for evidence Response from the UK Energy Research Centre (UKERC)

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## General comments

- We welcome the Welsh Government's interest in locally owned renewable energy. We make the following general comments first, before responding to individual points raised in the call.
- Our response draws on a range of research undertaken by the Heat and the City research group at the University of Edinburgh (<https://heatandthecity.org.uk/>), including a UK-wide study of local authorities and energy; and on the Financing Community Energy research project being led by Tyndall Manchester (<http://www.mace.manchester.ac.uk/our-research/centres-institutes/tyndall-manchester/>). This latter study is still collecting data, and the researchers hope to be able to offer more quantitative analysis later in the year, to develop and to supplement the points we raise below based on our research to date. We would be happy to contribute further to Welsh Government policy development in this area as our research and analysis progresses, should the Government so wish.
- We suggest that greater attention should be paid to city/town/settlement scale infrastructure for a low carbon energy system, including area based upgrading of the built environment and low carbon heating infrastructure. Heat and energy efficiency for a low energy building stock are crucial to meeting Welsh and UK Government legally binding targets for carbon abatement. The current call for evidence focuses heavily on the role of local ownership in relation to electricity generation from wind and solar PV (the latter being primarily small scale *individual* domestic installations); other forms of local energy, including local infrastructure are hence missing. Heat and energy efficiency have specifically local characteristics relating to settlements' built forms, and are proving difficult areas of policy for central (UK) government; heat and energy efficiency have the potential to deliver many of the benefits articulated in the call for evidence. We would encourage the Welsh Government to examine in more detail the potential role of decarbonisation of heat as part of their remit on locally owned renewable energy. It may for example be useful to review and build on the Scottish Energy Strategy 2017, particularly the content relating to local energy systems (<http://www.gov.scot/Resource/0052/00529523.pdf>), and the Climate Change Plan 2018, Part 3, Chapter 2 on Buildings <http://www.gov.scot/Resource/0053/00532096.pdf>. More specifically, in relation to Heat and Energy Efficiency, there is potential for shared learning and capacity building based on the proposals for, and piloting of, Local Heat and Energy Efficiency Strategies (<http://www.gov.scot/Resource/0052/00527606.pdf>).
- At national scale, Wales has opportunities for sharing risk, costs and benefits of energy developments – i.e. the direct benefit to the citizens of Wales through public ownership and the aggregate costs across society of decarbonisation. The Welsh Government process could work to establish a clear and compelling case for particular interventions where such a societal case can be made (see the presenting case for this in relation to heat in Hawkey and Webb 2018; and in relation to local heat and energy efficiency in Hawkey et al 2018).
- Cross-border collaboration and partnerships may also be beneficial, such as in emerging approaches to scaling up domestic retrofit; the energiesprong model for example is being

piloted in Nottingham. The UK community/cooperative energy sector also has value for community energy in Wales. For example, Shareenergy is a cooperative owned by its energy cooperative members and supports back office functions (including share offers) for its members across the UK, including several in Wales. It also runs its own two site wind cooperative with a turbine in Wales and one in Scotland (the Small Wind Coop) ([www.shareenergy.coop](http://www.shareenergy.coop)). Shareenergy is part of the Energy4All family of renewables cooperatives, which also includes Energy Prospects ([www.energyprospects.coop](http://www.energyprospects.coop)), a cooperative that recycles funds from the other Energy4All cooperatives, and makes them available as development finance for new community energy projects.

- Local Authority planning and ownership could be considered further as key components to securing greater local control and accountability, and achieving Welsh Government objectives. Our research (see Webb, Tingey and Hawkey 2017) indicates that further developing specific roles, powers, resources and responsibilities of local institutional actors in energy planning and ownership, especially Local Authorities (and social housing providers in collaboration with other public sector bodies) would also add value to Welsh society and economy.
  - Local Authorities (LAs) are recognised across the governments of the UK, and by the UK Committee on Climate Change (2012), as critical to climate protection and clean energy commitments. Local strategies can contribute significantly to energy savings in public, commercial and residential buildings; statutory duties, planning and development powers are important in catalysing cross sector innovation for clean energy systems. Many leading edge LAs have made pledges to achieve 100% clean energy in their area by 2050 (see for example <https://www.uk100.org/>). There are however, uncertainties about the future structure of local government services, powers and resources, and the local government role in energy systems is uncertain. In this context LAs are increasingly looking to revenues from generation projects and savings from energy efficiency to cover budget shortfalls, while also using them as an agent of transformation across the local social, economic and environmental landscape. Some cities and regions are making energy infrastructure and services central to capital investment and creating municipal energy companies to manage new business; others are asking how they can get started. Despite the unknowns, LAs are one of the very few organisations committed to the area for the long term and their democratic status is a route to engaging everyone in decision-making about the necessary shift to clean energy, giving them a stake in benefits as well as costs (see Webb, Tingey and Hawkey 2017).
  - Other European societies with a significant (or growing) level of community ownership generally tend to have strong municipal government engagement in direct service provision, including energy (see Hawkey 2015 for review). In other words, across Europe community owned energy has flourished in contexts where there is 'strong' local government; the UK is generally characterised as having 'weak' local government in the highly centralised UK governance system (see for example Slack and Côté 2014; Ladner et al 2016).
  - Local Authorities generally have the benefit of scale of assets, access to land and planning powers, and can therefore enable more straightforward replication of

business development for local ownership. Three examples in the UK are: Edinburgh Community Solar Cooperative (<http://www.edinburghsolar.coop/>) which has installed solar PV across the City Council estate; Plymouth Energy Community (<http://www.plymouthenergycommunity.com/>) which has similarly installed solar PV across the public estate, but has its roots more closely associated with the City Council; and Aberdeen Heat and Power (<http://www.aberdeenheatandpower.co.uk/>) an independent not-for-profit company which was set up by Aberdeen City Council and has progressively extended district heating in the city, providing affordable heat to residents.

- The inclusion of Local Authorities in local ownership enables local value creation which has direct benefit to citizens through better resources for local services. Housing associations are also valuable intermediaries in local energy ownership, operation and have significant assets for energy supply. Our Power (<https://our-power.co.uk/>) for example, is a fully licensed gas and electricity supply company, operating on a not-for-dividend model. It is a Scottish mutual membership organisation of social housing providers (including Local Authorities), with large scale collective housing stock. These local ownership models are not-for-profit/dividend, and are an example of owner and beneficiary distinction: the direct beneficiary is the resident who has potential for a warmer home and lower energy bills (and other benefits such as health); the housing provider has the potential for a decrease in rent arrears, voids and repair and maintenance costs; there is potential for local economic benefit from energy bills savings (amongst other factors); and there is potential for social and economic benefits to accrue at a societal level from enhanced well-being (and factors such as potential savings to health service, greater attainment in school and so on).
- In our research on Local Authority engagement in local energy (see Webb, Tingey and Hawkey 2017) we found that the 'stop-start' characteristics of many UK energy policy initiatives have worked against developing locally coherent energy strategies, and increased the perception of risk associated with local energy projects. Support needs to be backed-up with appropriate resourcing across the appropriate scales of government including Local Authorities. The UK political-economic context for LA action on energy remains uncertain, stemming from austerity in public finances, lack of statutory local powers over energy services and uncertainties in clean energy policies and subsidies. These are having some negative consequences for LA energy plans and investments, resulting in opportunistic, small projects, rather than strategic investment and long term capacity building. An increasing focus on financial performance indicators and short-term cost savings, as opposed to social welfare, climate protection and local prosperity, are also leading some LAs to question the legitimacy of their energy plans. Our research concluded overall that UK Local Authority energy provision is at an early stage, with issues to be resolved over the structures, powers and resources of local government in a devolved national and regional framework. Experience in Wales suggests that smaller authorities would invest in significant energy projects such as solar farms, if they had capacity and competences. Enhancing specific LA powers and responsibilities could therefore lead to higher levels of engagement with low carbon energy and energy saving. Where LAs have

succeeded in assembling energy projects, entrepreneurial officers, committed local politicians, and fortuitous financial circumstances, have been critical. Those circumstances have often depended on funding from European programmes which will need to be replaced when the UK leaves the EU. Existing LA initiatives help to exemplify the potential for a more mixed economy of energy, and a more distributed system, in the UK with private, public and civil society contributors, and a significant role for municipalities. We make the following recommendations for Welsh Government questions about specific support needs:

- Plans should clarify the role and responsibilities of LAs in energy saving and clean energy, and establish stable policy and support measures with clear trajectories against a timetable
- Welsh Government should consider what additional powers LAs need to deliver their energy-related responsibilities
- Welsh Government should consider further the need for support agencies and shared services for LA energy developments including national or regional energy agencies and specialist procurement organisations
- Welsh Government should support LA access to low cost, long term infrastructure finance
- Welsh Government should actively engage in processes to review and amend current energy market regulation to support local energy developers and operators, when this represents social, environmental and economic value to the public (further details on all in Section 7, Webb, Tingey and Hawkey 2017).

## Section 1: Targets

- **Question 1: Please provide evidence to support or reject expanding the 1GW target to encompass both electricity and heat projects.**

We welcome the inclusion of heat in the target, but suggest *increasing* the value of the target, or splitting the target between electricity at 1GW, and heat at a value yet to be defined. The challenges for electricity and heat are substantially different, a separate target for heat would better encourage the necessary heat specific policies, partnerships and initiatives to be put in place to deliver on local heat. Combining both electricity and heat will result in a decreasing volume of locally owned electricity within the target, or implies that inclusion of heat in the target is merely symbolic. Decreasing the volume of locally owned electricity generation does not seem to align with the Welsh Government's strategic goals.

It would also be wise for a heat target to relate to the annual quantity of low carbon, useful heat supplied (i.e. GWh) rather than a peak generation capacity (GW). This would be to avoid confusion (deploying heat pumps could result in 1GW peak electricity demand but 3GW peak heat generation), and because peak capacity is less relevant to heat than power (there is no equivalent of the capacity constraints on the electricity network).

- **Question 2: Please provide evidence on the level of ownership we should consider reasonable to fulfil the requirement.**

Here we identify two issues: the criteria for what level of stake in a project should qualify as 'ownership'; and how different forms of shared ownership should count towards the target.

With regards to the first issue, we suggest that consideration be given not just to the level of financial stake in a project, but also to process issues. The type of shared ownership structure, and the decision-making power afforded to the local or community partner in the ownership structure, may be important here. Our research to date has not found any particular issues with joint venture or split ownership structures, which would appear to offer a clear role in operational decision-making for the local or community partner. However, as detailed below (Questions 9 and 12) we have encountered two cases of shared revenue projects where the local partner has not received any income. Shared revenue arrangements also generally do not give the local or community partner any formal role in project decision-making (Vaughan-Morris 2015: 14).

At this stage of our research, we do not have the required evidence to set out more specific criteria on how decision-making in partnerships can be assessed. However, we wish to highlight the issue of partnership structure and decision-making processes as an area where Welsh Government has an opportunity to leverage power; through the local ownership target and the shared ownership requirement, to establish best practice in partnerships, and go some way to rebalancing power between smaller local and community organisations, and larger energy actors.

Finally, we note that community energy organisations that are structured as cooperatives or community benefit societies, may have constitutional issues in relation to using the proceeds of a community share to fund a project where they do not have overall control. Others with more specialist knowledge of this area (for example, Coops UK, or Community Energy Wales) may be able to advise further.

In terms of counting towards the target, we note that in Scotland, shared ownership schemes are counted in proportion to the share of local or community ownership. In the case of shared revenue schemes, this might be adapted to relate to the share of gross turnover which the local or community partner receives. This would require at least some revenue to flow to the partner. Other means of supporting community and local partners to maximise benefit from their partnerships are discussed below (especially in our response to Question 15).

## **Section 2: Definitions**

- **Questions 4: Do you agree with the definition of local ownership?**

Neither agree nor disagree.

- **Question 5: Do you agree with the definition of shared ownership?**

Agree: We agree with the definition, but suggest it is clarified that social enterprises of the sort defined in the section on “community ownership” are explicitly included as one of the owning bodies that would qualify a scheme as shared ownership.

- **Question 6: Do you agree with the definition of community ownership?**

Strongly agree: We agree with the definition’s focus on the legal commitment of a social enterprise’s assets and profits to social and/or environmental benefits. As it stands the definition permits community organisations to access resources, including funding, from beyond Wales, and we suggest that this could be important for the future growth of the community energy sector.

### Section 3: Evidence of Benefits of Ownership

- **Question 7: Please provide evidence of benefits already being delivered for Wales from renewable energy projects.**

In terms of financial benefits, the Community Shares Open Dataset suggests that by the end of 2017, at least £5.7m had been raised by community shares offers for Welsh ‘energy and environment’ projects. This represents both investment in Wales, and future flows of investor benefits: while the investors are not necessarily resident in Wales, it is likely that many are (Ward et al 2010).

Further financial benefits from community energy schemes flow to the organisations that host solar PV panels on their roofs (for example). Often host organisations are community centres or other local and/or charitable organisations, and the community energy organisations that own the solar panels supply them with electricity for free, or at a price that is substantially below the standard retail price for electricity.

In terms of non-financial benefits, data from our survey of community energy organisations indicates that, once community energy organisations have met their operating and financial costs, they use the surplus income from energy generation for projects in their communities (see: <http://www.mace.manchester.ac.uk/our-research/centres-institutes/tyndall-manchester/major-research-projects/community-energy-finance/>). These include making grants and donations to local community charities, and giving advice and support about energy efficiency and fuel poverty issues. Enabling community organisations to save money on their electricity bills (via the provision of free or cheap electricity) is also a route to enabling the provision of non-financial benefits, through strengthening the financial position of those community organisations. While some of these benefits may also arise from ‘community benefit’ payments from commercial-owned renewable energy, the Financing Community Energy survey and others (CEE State of the Sector 2017) find that community energy organisations across the UK often spend £10,000 per MW installed capacity on specific community benefit activities (and in some cases very much more). In contrast, the UK’s largest commercial community benefit fund, from Pen y Cymoedd windfarm, pays community benefit at a rate of just under £8,000 per MW. However, it is important to

acknowledge that the total sum of community benefit payments raised from Pen y Cymoedd is much larger than similar payments from any current individual community energy project in Wales.

Nevertheless, it should be noted that it appears that the generation of local benefit payments from community renewables has to a considerable extent depended on the income and security provided by price incentive schemes such as the Renewables Obligation (RO) and the Feed-in Tariffs (FIT). While it is still possible for well-resourced community organisations to develop community energy projects in favourable locations, and these may still engage the public through share offers and educational activities, it is increasingly difficult for them to generate financial surpluses to fund wider energy and community development work of the sort outlined above. In the Financing Community Energy project we hope to elaborate on this issue with further analysis of our data.

Finally, we note that other work is ongoing to develop a standard monitoring and evaluation tool for UK community energy projects (<https://www.pureleapfrog.org/monitoring-and-evaluation>). If it has not already done so, the Welsh Government may wish to engage with that work in relation to the topic of ownership of renewable energy.

## Section 4: Challenges of shared ownership projects

- **Question 9: Please provide evidence of specific challenges in relation to shared ownership projects. As part of this assessment we would welcome evidence about whether shared ownership itself represents a barrier to deployment of renewable energy projects.**

The type of shared ownership, and relative stake of the partners, may influence the size of income streams flowing to the community or other local partners. The Financing Community Energy survey has uncovered evidence of ‘shared revenue’ projects where the local partner receives zero revenue. In these cases, the local partner holds a small minority stake; the project developer holds the majority stake; and it appears that the entirety of the revenue for the first years of the project has gone to pay management and financing costs, leaving no profits to be shared. The key issue is that despite the name ‘shared revenue’, partners are sharing only the profits, rather than overall revenue.

While it is not unusual for renewable energy projects to make little or no profit in their first years of operation, the local partners feel that there are other indications that the costs being charged to the project may be excessive. More generally, a ‘shared revenue’ arrangement that delivers no revenue for several years may frustrate local expectations as to what shared ownership offers, particularly in the context of an excellent renewable resource and long project development times. Research on district heating has found that developments using a commercial concession contract can encounter difficulties in extending networks beyond the initial specification; there are also issues of data sharing and transparency between partners, and different objectives and levels of expertise (Hawkey et al 2016, chapter 6). As a more general comment on local deployment, we would also stress that

successful implementation of local heat and energy efficiency strategies and development of low carbon heat networks requires a local owner for whom district heating is the solution to a critical problem (Hawkey et al 2018).

- **Question 10: Please provide evidence about where a challenge or barrier to shared ownership has been successfully addressed.**

Whilst we do not have primary data to present at this stage, we suggest the Welsh Government should further investigate the experience of Energy4All, who have worked with Falck Renewables over many years, and helped create several community-commercial renewable energy partnerships in Scotland and England.

## Section 5: Ownership Models

- **Question 11: Please provide evidence of developments using other ownership models not included above.**

In terms of legal structures, many community energy organisations in Scotland are private companies limited by guarantee. Often these are themselves trading subsidiaries of a locally-based 'development trust', which is itself a company limited by guarantee with charitable status. The company limited by guarantee structure has members rather than shareholders. It permits one member one vote decision making, and membership is often obtained for a nominal fee of £1, thus making them highly inclusive.

Several community energy groups elsewhere in the UK are working on energy services 'take ownership as you go' shared ownership models. Here one party installs an energy technology – in the case of renewables, perhaps a biomass boiler, or rooftop solar PV - for another party that makes use of the energy thus generated. The energy service user pays the installer for the energy they use. Such payments can be counted against the installer's capital and operating costs to allow the service user to progressively take ownership of the installation. They can also contain a premium to allow the service user to 'buyout' the installer more quickly, or a clause allowing the service user to buy the installation with a lump sum payment once they are able to access the funds required.

In this way, the service user can take ownership of its energy technology, and progressively reduce energy bills, without needing to make a large capital outlay; and the installer receives a steady income stream which can be used to fund future projects. Such a model of shared ownership may be particularly useful where the service user is a smaller community organisation unable to fund an energy installation itself, and which would face difficulties borrowing the capital to do so. This business model is also being employed to fund the installation of LED lighting.

There are many community energy organisations in England that are operating innovative shared ownership business models, which the Welsh Government might wish to investigate. These include Morecambe Bay Renewables, Community Renewable Energy Wandsworth, and Brighton and Hove Energy Services Cooperative.

- **Question 12: Please provide evidence to demonstrate the most useful models in delivering shared ownership and local benefit.**

While some community organisations have benefitted from the shared revenue structure of shared ownership, as we have noted previously, this structure seems to leave open the possibility of ‘agreed costs’ and financing using up the revenues that it might have been hoped would provide local benefit. Other structures may afford local partners clearer rights and more power in the partnership, although realising this power may also require greater engagement of time and resources.

## Section 6: Finance

- **Question 13: Please provide evidence of the types and sources of finance used to develop energy projects in Wales. Evidence to support or challenge the continuation of Welsh Government finance offers would be helpful.**

In some respects, the financing mix for community energy projects in Wales appears similar to that in other parts of the UK. Much of the financing for Welsh community energy projects has come from community shareholders (Financing Community Energy survey; CEE State of the Sector 2017 survey data). Other funding has come in the shape of loans, from ‘ethical’ banks such as Triodos, and from other community organisations and even individuals.

There are two points specific to Wales. First, there is the relative availability of government funding compared to England. Funding from Ynni Lleol and Finance Wales has been important for community energy projects, the latter providing short-term bridging loans which are refinanced by community shares, and the former providing early stage development funding.

Early stage funding that is “patient” - willing to countenance risk and even loss, and wait for repayment - is critical to the development of community energy projects. They may take longer to get to development stage than commercial energy projects (Harnmeijer et al 2015); similar to other social enterprises the amounts needed are not necessarily huge, but are important to the project in question (Floyd et al 2015). Our Financing Community Energy survey has uncovered instances of community energy organisations (albeit not specifically in Wales) at early stages of project development depending on long term interest free loans from their own directors, from other community energy groups, or raising money through ‘pioneer’ community share issues (which are much higher risk for the investor). It is notable that sector actors we have spoken to in Wales speak highly of the Welsh Government’s approach to providing patient finance for community energy; we would suggest that this is continued, at the very least.

Secondly, an important role seems to be played by the Robert Owen Community Bank, based in Powys and providing finance across Wales. This bank has made loans to several Welsh community energy organisations, and operates at a relatively small scale, making it perhaps more accessible to smaller projects than some of the larger ‘ethical’ banks.

- **Question 14: Please provide evidence of the impact of shared ownership models on access to or cost of finance.**

Shared ownership/partnership models with Welsh Local Authorities may provide access to low cost finance in addition to expertise and resources. Generally Local Authorities have good credit ratings and in principle could secure finance at more affordable rates than individual community groups. They can in principle access prudential borrowing and on-lend, or provide finance from an internal fund. They may be able to act as guarantors for community enterprises that need access to commercial borrowing but have no track record. Local Authorities and community groups may directly co-invest. For example, Public Power Solutions (wholly owned by Swindon Council) engaged in a partnership with Abundance, to co-finance Swindon Community Solar farm from a mix of public finance and community investment<sup>1</sup>. Municipal bonds may also be another source of finance (Roelich 2015) which could be directed toward local renewable projects though this may require collaboration or aggregation to achieve scale; the newly established Municipal Bond Agency aims to offer rates lower than Public Works Loan Board. In 2017, the Low Carbon Infrastructure Transition Programme (LCITP) in Scotland awarded £43.6 million to thirteen low carbon infrastructure demonstrator projects; ten of these have direct LA and/or community stakes in<sup>2</sup>.

In the four community energy initiatives<sup>3</sup> examined in Webb, Tingey and Hawkey (2017 p30, p32), innovative use of council resources aimed to support more inclusive and clean energy services. LAs provided access to buildings, loan (and sometime grant) funding, staff time and expertise where needed in setting up community energy businesses and/or in day-to-day management. LAs could use their ‘trusted brand’ identity to partner with community groups. Each party could access funding opportunities as well as making joint bids. Local political priorities favoured community ownership and stemmed from councils’ history of sustainable development work as well as recent enabling powers. Supporting community energy was seen as a route to local engagement and community responsibility for assets, as well as creating opportunities for training, skills development and empowerment. This was important in the face of dwindling council resources and the need for resilient communities. For example, Plymouth Energy Community (PEC) has roots in the 2012 Plymouth Labour Party manifesto which included a cooperative council model for delivering local benefits; this was subsequently integrated into the council’s corporate plan. Plymouth Energy Community (PEC) was registered in 2013 as a community benefit society. In 2014 PEC Renewables Ltd, a second community benefit society was set up for electricity generation. In 2016, PEC partnered with Four Greens Community Trust to build a solar farm on derelict land, providing an income to the Trust. In addition to renewable electricity, PEC offers an energy advice service. The council acted as a strategic partner to PEC, providing affordable loans and a start-up grant, which were combined with member share offers and other grant funding; a

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<sup>1</sup> See <https://www.abundanceinvestment.com/investments/swindon-common-farm-solar> and <https://www.publicpowersolutions.co.uk/swindon-community-solar-farm-powers-up-thanks-to-unique-solar-bond-initiative/>

<sup>2</sup> <http://www.gov.scot/Topics/Business-Industry/Energy/Action/lowcarbon/LCITP/TransformDemonstrate> and for the demonstrator projects funded see <http://www.gov.scot/Resource/0053/00530338.pdf>

<sup>3</sup> These were Bath & West Community Energy, Low Carbon Hub (Oxford), Plymouth Community Energy and Swansea Community Energy.

service level agreement buys Council officer time for day-to-day management. The Council is recognised as a trusted local partner supporting PEC growth, and enabling a more inclusive model of clean energy services for council, citizens and investors.

The Welsh Government could further consider the role of refinancing and sale of locally owned renewable energy assets, and whether this would be restricted to organisations based in Wales. There is a balance to be struck between protecting local or Welsh ownership of energy generation supported by the Welsh Government's policies, and enhancing local actors' autonomy and power to pursue their own development strategies, which may sometimes include selling some or all of their stake in an energy project. Consideration might be given to how far the refinancing or sale of energy assets will further local social, environmental and economic development objectives. We also note that any organisation whose constitution includes an 'asset lock' will already be restricted in relation to how it can dispose of any assets it owns; often this 'lock' will stipulate that assets may only be transferred to organisations with similar charitable or other wider benefit objectives.

## Section 7: Role of investment mechanisms and Energy Company

- **Question 15: Please provide evidence to support or challenge a role for a 'not for profit' energy company for Wales to help deliver local ownership targets.**

In Denmark district heating is widely established; heat is sold on a not-for-profit basis. There is transparency on heat pricing, and district heating development has been enabled by a strong planning framework. Most district heating is owned by local authorities, and district heating consumer cooperatives (Chittum and Østergaard 2014; Bush et al 2016). In the UK, district heating systems have been successfully extended under a local ownership model, on a not-for-profit basis (a key example of the latter is Aberdeen Heat and Power Ltd, set-up by Aberdeen City Council).

A national not-for-profit energy company might aid the development of community energy in Wales both in relation to finance, and in relation to technical and business issues. Firstly, the ability to spread investment risk across a portfolio might not only protect investors, but also, through lowering risk, raise finance at lower rates of interest than single-project community energy groups are able to (DECC 2014). This could in turn lower projects' financing costs, potentially allowing for greater local benefit, or even permitting projects to proceed that might not otherwise have been viable. The establishment by Energy4All, of the Energy Prospects cooperative ([www.energyprospects.coop](http://www.energyprospects.coop)), a cooperative that funds other energy cooperatives, is a sign of the community energy sector attempting to address this very issue.

Secondly, such a company might strengthen community energy groups' capacity in various technical domains. Particularly when establishing themselves, community energy groups often face a steep learning curve; and in dealing with commercial energy actors, an imbalance of financial and technical resources. Enhancing community energy groups' capacity might also facilitate partnership working and benefit commercial energy actors seeking community partnerships (Goedkoop and Devine Wright 2016, Harnmeijer et al 2015).

The existence of capacity issues is widely recognised, as is evidenced by the many initiatives, from within the community energy sector itself and from elsewhere, which attempt to address them in various ways. These include:

- the success and popularity of support programmes and organisations such as Ynni Lleol in Wales, Community Energy Scotland<sup>4</sup> and Local Energy Scotland in Scotland, and support offered by Community Energy England and Coops UK;
- the existence of widespread inter-group sharing of advice, contacts and even loans, shareholdings and donations;
- the emergence of community energy developers and facilitators such as Energy4All, Sharenergy, Mongoose and Communities for Renewables at a UK level, and more localised initiatives and lead organisations such as (among others) the Low Carbon Hub (Oxfordshire), Brighton Energy Coop, and the Bristol Energy Network; and
- the role of better-resourced local authorities in co-creating successful community energy companies such as SCEES in Swansea, or Plymouth Energy Community, and in working with many others across the UK (e.g. in Oldham, Oxford, and Edinburgh).

Any national energy company for Wales should seek to build on and complement this activity. Through its activities it might set a fair and transparent standard for shared ownership contracts and agreements, or lease agreements with land-, river- and roof-owners; leveraging its national scale to improve market conditions for community energy organisations. It might also play a valuable role in facilitating community and local energy to engage with the ongoing transformation of the energy sector in general, incorporating energy efficiency activities, and local energy supply and energy services business models. Finally, its pricing and contracting structure might also be designed to restore some of the predictability of future revenue streams which would allow more community organisations to take the risk of entering the energy sector.

- **Question 16: Please provide evidence of the need for an investment mechanism to increase availability of Wales based capital for investment in energy projects.**

KfW bank in Germany has been an instrumental component of the growth of locally/cooperatively owned renewable energy. KfW bank's strong credit rating allows it to borrow at very low rates. This finance is then distributed through networks of local and regional banks who are keen to support local projects, in part because of their positive impact on local economies. These financial intermediaries often provide development support alongside capital (Hall et al. 2016). While Wales does not have an analogous network of local and regional banks, the model could be translated by combining low cost lending with development support and, importantly, metrics tracking the socioeconomic impact of projects in Wales as a way of measuring value for money.

A dedicated long term Local Energy Fund could build on the current £320 million Heat Network Investment Project, Salix fund and/or European and UK matched funds such as the

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<sup>4</sup> Community Energy Scotland's website ( <http://communityenergyscotland.org.uk/>) provides projects database, catalogue of members, case studies etc.

London Energy Efficiency Fund, Scottish Partnership for Regeneration in Urban Centres and Regeneration Investment Fund for Wales.

In Scotland, proposals<sup>5</sup> are being developed for a National Investment Bank which may offer Welsh Government scope to explore the suitability of a similar investment mechanism to increase availability of Wales based capital for investment in energy projects. The vision for the National Investment Bank is to “provide finance and act to catalyse private investment to achieve a step change in growth for the Scottish economy by powering innovation and accelerating the move to a low carbon, high- tech, connected, globally competitive and inclusive economy.” (Recommendation 1. *Scottish National Investment Bank Implementation Plan*). Whilst these plans are at an early stage, and benefits need to be proven, Government ownership was cited as more desirable to private ownership to ensure long term, consistent, and confident pursuit of its overarching purpose (p iv). Proposals include support for SME investment, with early stage and medium-term loan finance and a co-investment model for early stage equity investment which could be models to consider.

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<sup>5</sup> Proposals including the Implementation Plan are available here <http://www.gov.scot/Publications/2018/02/5676>.

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