

Governing Urban Transformation

Community Renewable Energy Projects: A Recommendation for the GMCA

Understanding the Energy Policy Context

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I 9443052 confirm that this report is based on my own work and that I am happy with both my own and my partner's 9465472 contribution to the final submitted version.

Executive Summary

This report investigates the relationship between energy governance structures and community renewable energy (CRE) generation. Building on knowledge from successful community-led projects in Scotland, it aims to assess how newly devolved powers to the GMCA can be best utilised to promote a greater emphasis on the implementation of CRE projects across Greater Manchester. Using current examples from across the region, the findings have suggested that CRE projects can be beneficial in helping to achieve the GMCA’s aims as identified in the *GMSF*. CRE projects are highly beneficial in providing local development, reducing carbon emissions, promoting resilience and generating social capital at the community level. The findings have also suggested that CRE projects are only effective in the medium/long-term when targeting issues of fuel poverty. Therefore, a series of recommendations for the GMCA are formed, including forming increasingly favourable policy conditions for the uptake of CRE projects, diversifying and providing more CRE projects in central Manchester, and finally, conducting further research into the specific co-benefits associated with CRE projects, allowing for a more targeted approach in tackling urban issues. This study presents implications for Greater Manchester, and more widely the rest of the UK.

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List of Acronyms:

CARES - Community & Renewable Energy Scheme

CRE - Community Renewable Energy

GMCA - Greater Manchester Combined Authority

GMSF - Greater Manchester Spatial Framework

REIF - Renewable Energy Infrastructure Fund

RO - Renewables Obligation

All terms are defined using the *GMSF* definitions (GMCA, 2016).

1 Introduction

This report for the GMCA aims to justify why CRE projects should constitute a key part of Greater Manchester's energy policy following the region's devolution from wider UK policy frameworks. Following the successes of CRE's in Scotland, this report suggests that these projects can be implemented successfully in Greater Manchester to satisfy a number of the aims identified in the *GMSF*, thus setting an example for the UK (GMCA, 2016). This report will begin with a brief summary of the UK's current energy policy concerning CRE's. This will be followed by a consideration of how these projects can be implemented successfully and the degrees of success achieved in Scotland using a combination of grey and academic literature. In terms of Greater Manchester, a number of case studies will be analysed to suggest that the appropriate implementation of CRE projects can satisfy a number of the GMCA's aims, including stimulating growth, reducing carbon emissions, promoting resilience, reducing fuel poverty and generating social capital. Within these discussions, the crucial importance of using CRE projects to foster co-benefits within local communities and across Greater Manchester will be noted. Therefore, this report will be concluded with a

number of recommendations for the GMCA, suggesting that more emphasis should be placed on CRE projects in achieving a number of the region's policy goals.

2 CRE Projects & UK Energy Policy - A Summary

Since the inception of the Conservative-Liberal Democrat coalition government in 2010, a number of key changes have been made to national energy policy. The presence of the Liberal Democrat party and their control of energy policy allowed for more extensive support of renewable technologies, due to the party's more favourable stance on the technologies in relation to the Conservatives (Helm, 2015).

The first policy to impact community level projects was the introduction of Feed-in Tariffs in 2010 where renewable projects generating under 5MW were paid a premium rate when linked to the national grid (Ofgem, 2017a). This stimulated extensive small scale investment in generation up until early 2016 when rates paid to producers were cut by 65%, causing a marked decline in the uptake of renewable installations (Ofgem, 2017b). Since 2015, under the Conservative government a number of policy changes have made it more difficult for communities to implement renewable schemes. This has most notably consisted of the scrapping of the RO for onshore wind and solar in 2015 and more latterly *all* new generation in 2017 (Ofgem, 2017c). Support for renewable energy generation under the climate change levy exemption was also ended in 2015, again making it more difficult for schemes to be economically viable (Ofgem, 2017d).

Devolution agreements for Greater Manchester have highlighted the increasing opportunity for the wider uptake CRE's in the region (Bernstein, 2015). These opportunities are afforded by devolving power with the aim of increasing rates of community energy investment and citizen engagement with said projects. Changes would see the GMCA able to adjust national funding mechanisms for CRE projects to allow for more effective prioritisation and coordination at the regional level (Allcorn and Atherton, 2016). This would be achieved by

combining central government funds with local finances to increase the uptake of CRE projects (Ibid.).

3 Context - Introducing CRE Projects

CRE's are often classed as small/mid-scale projects, often situated within local communities and premised highly on the ideas of democracy and citizen participation. Apart from providing clean energy to local communities, CRE's can result in much wider co-benefits. Seyfang *et al.* (2013) states that CRE's can be critical in promoting local development and enriching the community, whilst Schiffer (2014) goes further by stating that these projects allow local people to generate social capital whilst also stimulating local employment opportunities. Walker *et al.* (2010) states that the success of these projects in communities are also critical in facilitating acceptance of renewables more widely across the UK. This therefore, could accelerate the UK's trajectory towards a sustainable low-carbon society.

However, although CRE's sound highly beneficial, there have been examples where projects have not been particularly successful or in some instances, have not gone ahead at all. This may be due to a variety of reasons, however in the case of the Norton community wind project in South Yorkshire, this was due to a variety of issues concerning justice which arose during the implementation process (Simcock, 2016). First, certain sections of the community were excluded from the planning process provoking issues of procedural justice and, on the other hand, not all the communities who would be affected by the project, such as the nearby village of Smeaton, were consulted, thus provoking questions of recognitional justice (Ibid.). To add to this, the project was promoted and marketed as a 'community' project by Origin Energy; a private company from York, however it soon became evident that not all the perceived benefits of the project would be kept in the local area, creating more opposition to its implementation and thus contradicting the whole concept of CRE's (Simcock, 2016; Seyfang *et al.*, 2013). This project was in the end annulled due to a planning dispute (Simcock, 2016). This example however, should not paint a negative picture as it all comes down to the fact that all CRE projects will be successful if implemented appropriately.

However, possibly the most important factor dictating the successful uptake of CRE's is the availability of reliable and consistent funding streams. However, as previously mentioned, many of these streams have been withdrawn in the UK context (Walker & Devine-Wright, 2008).

4 Justification - The Scottish Example

Although CRE's are less favourable in England, Scotland has witnessed a renewable energy renaissance as Scottish ministers have received devolved powers over energy policy from the UK (Cowell *et al.*, 2013). Scotland's success has been down to a multitude of factors. One such factor is political will as Scotland has set various targets concerning renewable energy policy, such as a target to make 100% of Scottish energy demand renewable by 2020 (Schiffer, 2014). It is evident that the wider uptake of CRE's will be critical to meeting this target. Furthermore, Scotland offers a number of funding streams aimed at promoting the uptake of CRE's, including the CARES and REIF for example (Schiffer, 2014). Scotland also demonstrates that CRE's can be successful in both rural and urban environments. The Edinburgh community solar cooperative and Aberdeen Heat & Power Ltd demonstrate this, and also demonstrate the beneficial nature of these projects if combined with other urban governance strategies.

However, it must be noted that Scotland has encountered a number of challenges amongst this success (Schiffer, 2014). Some projects have encountered the same issues as described by Simcock (2016), such as the remote private developer-owned Kintyre project which has been perceived negatively within the local community (Warren & McFayden, 2010). On the other hand, a challenge has been identified in integrating national institutional frameworks into more local-based policy frameworks (Schiffer, 2014). Other challenges were identified over power disputes with the UK government due to certain elements of devolved powers. For example, controversies have arisen over the supplier licensing of CRE's and their permissions in terms of keeping generated energy in the community rather than selling it

directly to the national grid (Schiffer, 2014).

However, the overall point here is that the Scottish example demonstrates that CRE's are something the GMCA should pursue and could constitute a lucrative opportunity in terms of meeting a number of the visions highlighted in the *GMSF* (GMCA, 2016), thus justifying this research report. However, this relies on whether Greater Manchester demonstrates the same motivation as observed in Scotland and whether the region can guarantee reliable funding streams which make the uptake of CRE's look attractive to local communities. Therefore, it is down to the GMCA to set an example for wider UK energy policy.

5 Findings – CRE projects & their adherence to the GMCA's Aims and GMSF

There are already a number of CRE projects ongoing within Greater Manchester, notably involving hydroelectric power. The current CREs will be assessed with a view to demonstrate the extent to which they fulfil the aims of the GMCA (2016) as set out in the *GMSF* and other related policy documents.

5.1 Growth

Growth is one of the key aims of the spatial framework with a 2.5% annual GDP increase expected (GMCA, 2016). This means robust economic viability of CREs is essential in ensuring their continued role in diversifying the energy mix. When assessing the current schemes operating, it is evident that once initial funding can be achieved through citizen investment models, CRE projects have the potential to be economically viable even in the short term. This is exemplified by Stockport Hydro's first year profits returning 4% to local investors (with the remaining profits dedicated to social projects) (Stockport Hydro, 2017). In addition to this the Saddleworth Community Hydro company's ability to raise the £120,000 needed to get the project running soon secured annual profits in excess of

£12,000 (Saddleworth Community Hydro, n.d).

Another key factor in CRE projects abilities to drive economic growth in Greater Manchester is their potential to reduce the export of capital gains away from the region. The community scale nature of such projects ensure that even when the profits are not ring fenced for local investment, they are absorbed by local citizens who are much more likely to reinvest in the local areas through other modes of day to day consumption (RTP Engine Room, 2015). The benefits of such small scale ownership are apparent as only two of the 'big six' energy firms providing 95% of the nation's domestic power are UK based companies (Hall *et al.*, 2014; BBC, 2014).

Finally, CREs are also shown to provide wider benefits to the economy of Greater Manchester as whole. This is due to the required procurement of green technologies such as the aforementioned hydroelectric generators in addition to the labour services required, thus further expanding the region's low carbon, environmental goods and services sector, which currently supports 37,000 jobs and contributes £3.4 Billion Gross value added to the economy (GMCA, 2017).

5.2 Fuel Poverty

Historically when CREs generate power for local consumption they have strong capacity to reduce fuel poverty levels through reduced bill payments. However the majority of schemes in Greater Manchester currently feed power directly to the national grid meaning only those investing in the project gain financially. In addition to this, government subsidies for these projects increase wholesale energy prices for the average consumer, having a negative impact on fuel poverty levels (RTP Engine Room, 2015). In the medium term, by 2030 onwards CREs are expected to reduce energy prices for all consumers as they become more cost competitive than traditional energy sources (RTP Engine Room, 2015). It is therefore clear that only in the medium term CRE projects are capable of alleviating fuel poverty.

5.3 Environmental

The headline environmental goals of the GMCA require reductions in carbon emissions by 48% from 1990 levels by 2020 (GMCA, 2016). CRE projects have a proven track record of producing zero carbon energy, with Greater Manchester's largest source of carbon neutral power generation being the Saddleworth hydro plant generating 51Kw annually (Saddleworth Community Hydro, n.d). This results in 170 tonne Co2 savings per year, with the Stockport generator saving 100 (Saddleworth Community Hydro, n.d; Stockport Hydro, 2017). It is estimated that over the 40 year life of the respective projects, 10,800 tonnes of Co2 will be saved from emission (ibid). This shows that whilst on a small scale such projects are capable of reducing carbon emissions by the required levels, it is the extent of their deployment that will dictate the overall impact on wider carbon emission targets for the region.

5.4 Generating Social Capital & Social Inclusion

One of the key aims identified by the GMCA, identified both in the *GMSF* (GMCA, 2016) and in the GMCA's (2014) *Social Value Policy* report, is the importance of promoting increased social capital and inclusion. These are two highly important factors in nurturing more cohesive cities, and can be achieved through new forms of urban governance arrangements as suggested by Gerometta *et al.* (2005). CRE's have been identified within the literature as being highly beneficial in not just harnessing economic and environmental benefits, but in promoting social benefits within communities also. This has been identified by Schiffer (2014) as being critical in generating social capital, and Walker *et al.* (2010) has also highlighted a similar effect, suggesting that CRE projects are crucial in terms of generating social capital in communities as well as fostering inclusion. This is clearly exemplified in the case of the Saddleworth and Stockport community hydro power generation schemes. The Saddleworth Community Hydro social enterprise specifically states the importance of these schemes in showing how local people, with institutional capability, can successfully execute these schemes (Saddleworth Community Hydro, n.d). This is highly beneficial as this knowledge can be utilised to implement similar sized enterprises elsewhere, thus creating a

wider acceptance of renewables as well as harnessing wider indirect benefits (Walker & Devine-Wright, 2008). In the Saddleworth case, annual profits from the scheme (£12,000) have been reinvested back into the community to stimulate other similar local projects and environmental education schemes, harnessing further social engagement (Saddleworth Community Hydro, no date.). In the case of Stockport Hydro, profits have directly been invested back into the local area, with some funds explicitly being focused on promoting social inclusion. For example, some of the profits have been focused on improving the quality of local green spaces as well as facilitating improved access to these spaces, particularly for disabled citizens (Stockport Hydro, 2017). The social impacts of the projects illustrated here therefore correspond highly with a number of the themes identified in the GMCA's (2014) *Social Value Policy* report. This includes sections such as 'Promote Participation and Citizen Engagement' and 'Promote Equity and Fairness', therefore suggesting that the wider utilisation of CRE's should be within Greater Manchester's greatest interests.

5.5 Co-benefits - A Summary

It is evident from the *GMSF* that growth constitutes the main aim for the GMCA (2016), and judging from a number of responses to the framework, it is evident that many parties including Steady State Manchester feel that the *GMSF*'s aims for growth are over-obsessive and overlook other factors (Steady State Manchester, 2016). If CRE's are utilised appropriately across Greater Manchester, whilst engaging communities in the delivery of these projects, it is evident that CRE's can stimulate much wider co-benefits. Co-benefits in the Greater Manchester context could most importantly, stimulate growth in local communities as well as reduce carbon emissions, promote resilience, reduce fuel poverty and generate social capital whilst fostering inclusion in local communities. All of these factors are identified in the *GMSF*, thus justifying why the utilisation of CRE's will prove a highly beneficial project in terms of urban governance for Greater Manchester (GMCA, 2016) and why the GMCA should uptake this strategy within policy frameworks.

6 Conclusion - Recommendations for the GMCA

The conclusion for this report consists of a number of recommendations for the GMCA:

- We recommend that the GMCA place more emphasis on the uptake of CRE projects and therefore should create increasingly favourable policy conditions for their implementation within Greater Manchester, especially in fuel poor communities. Judging by the successes of case studies both in Greater Manchester and in Scotland, it is evident that CRE projects present a lucrative opportunity for the GMCA, not just in terms of promoting local growth, but in terms of generating co-benefits, including reducing carbon emissions, promoting resilience, reducing fuel poverty and generating social capital as well as fostering social inclusion.
- We also recommend that the GMCA place more emphasis on encouraging and diversifying the uptake of CRE projects in central Manchester. Many of the examples analysed, including in Stockport and Saddleworth, are located long distances away from central Manchester. The findings have also suggested that the majority of successful CRE projects in Greater Manchester have been hydroelectric developments. Therefore, we recommend that the GMCA also place more emphasis on facilitating alternative forms of electricity generation, including solar PV, which could be utilised appropriately within central Manchester.
- We recommend that the GMCA conduct more research into specific co-benefits which are obtained from differing CRE projects. This will allow for a more targeted approach in tackling issues such as fuel poverty, development and social exclusion in local communities.

References

Allcorn, and Atherton, (2016). *GM Devolution – Energy Update*. Manchester: GMCA Low Carbon Hub Board.

BBC News. (2014). *Who are the "big six" energy companies? - BBC News*. [online] Available at: <http://www.bbc.co.uk/news/business-24670741> [Accessed 10 May 2017].

Bernstein, H. (2015). *Further Devolution to Greater Manchester*. Manchester: GMCA.

Cowell, R., Ellis, G., Sherry-Brennan, F., Strachan, P. & Toke, D. (2013). *'Promoting Renewable Energy in the UK: What Difference has Devolution Made?'* [online] Available at: [file:///nask.man.ac.uk/home\\$/FinalReportPromotingRenewableEnergyUK.pdf](file:///nask.man.ac.uk/home$/FinalReportPromotingRenewableEnergyUK.pdf) [Date Accessed: 10 May 2017]

DECC (2014). *Government unveils eight major new renewables projects, supporting 8,500 green jobs*. [online] Available at: <https://www.gov.uk/government/news/government-unveils-eight-major-new-renewables-projects-supporting-8500-green-jobs> [Accessed 10 May 2017].

Gerometta, J., Haussermann, H. & Longo, G. (2005). 'Social innovation and civil society in urban governance: Strategies for an inclusive city'. *Urban Studies*. 42(11). Pp2007-2021.

GMCA (2014). *GMCA Social Value Policy*. Manchester: GMCA. [online] Available at: https://www.greatermanchester-ca.gov.uk/downloads/download/27/gmca_social_value_policy_-_november_2014 [Date Accessed: 10 May 2017]

GMCA (2016). *GREATER MANCHESTER SPATIAL FRAMEWORK*. Manchester: GMCA, pp.5, 78-82.

GMCA (2017). *Low carbon*. Manchester: GMCA. [online] Available at: https://www.greatermanchester-ca.gov.uk/info/20005/low_carbon [Accessed 10 May 2017].

Hall, S., Foxon, T. & Bolton, R. (2014). 'The New Civic Energy Sector: implications for ownership, governance and financing of low carbon energy infrastructure'. In BIEE 10th Academic Conference: Vancouver

Helm (2015). *The Coalition Effect - Energy Policy and the Coalition*. [online] Oxford. Available at: <http://www.dieterhelm.co.uk/energy/energy/stranded-assets-a-deceptively-simple-and-flawed-idea-4/> [Accessed 7 May 2017].

Ofgem.gov a. (2017). *About the FIT scheme*. [online] Available at: <https://www.ofgem.gov.uk/environmental-programmes/fit/about-fit-scheme> [Accessed 10 May 2017].

Ofgem.gov b. (2017). *Feed-In Tariff (FIT) rates*. [online] Available at: <https://www.ofgem.gov.uk/environmental-programmes/fit/fit-tariff-rates> [Accessed 10 May 2017].

Ofgem.gov c. (2017). *RO closure*. [online] Available at: <https://www.ofgem.gov.uk/environmental-programmes/ro/about-ro/ro-closure> [Accessed 10 May 2017].

Ofgem.gov d. (2017). *Generators*. [online] Available at: <https://www.ofgem.gov.uk/environmental-programmes/ccl/generators> [Accessed 10 May 2017].

2017].

RTP - Realising Transition Pathways , Engine Room (2015). 'Distributing Power: A transition to a civic energy future'. Realising Transition Pathways Research Consortium.

Saddleworth Community Hydro (no date.). *Home*. [online] Available at: <https://sites.google.com/site/saddleworthcommunityhydro/home> [Date Accessed: 10 May 2017]

Schiffer, A. (2014). 'From remote island grids to urban solar co-operatives: Community power Scotland'. *Friends of the Earth Scotland*. [online] Available at: <http://www.foe-scotland.org.uk/sites/www.foe-scotland.org.uk/files/CommunityPower%202.pdf> [Date Accessed: 10 May 2017]

Seyfang, G., Park, J. & Smith, A. (2013). 'A thousand flowers blooming? An examination of community energy in the UK'. *Energy Policy*. 61. Pp977-989.

Simcock, N. (2016). 'Procedural justice and the implementation of community wind energy projects: A case study from South Yorkshire, UK'. *Land Use Policy*. 59. Pp467-477.

Steady State Manchester (2016). 'Greater Manchester Spatial Framework - our response'. Available at: <https://steadystatemanchester.net/2016/12/23/greater-manchester-spatial-framework-our-response/> [Date Accessed: 10 May 2017]

Stockport Hydro (2017). *Another successful year for Stockport Hydro Ltd, 11 local projects benefit from the 2017 Environmental Challenge Award*. [online] Available at: <http://www.stockport-hydro.co.uk/index.php?page=news-2> [Date Accessed: 10 May 2017]

Walker, G. & Devine-Wright, P. (2008). 'Community renewable energy: what should it mean?'. *Energy Policy*. 36(2). Pp497-500.

Walker, G., Devine-Wright, P., Hunter, S., High, H. & Evans, B. (2010). 'Trust and community: Exploring the meanings, contexts and dynamics of community renewable energy'. *Energy Policy*. 38(6). Pp2655-2663.

Warren, C. & McFayden, M. (2010). 'Does community ownership affect public attitudes to wind energy? A case study from south-west Scotland'. *Land Use Policy*. 27(2). Pp204-213.