



SUMMARY REPORT

Opportunities for Community Renewable Energy Schemes in Rural Areas of Bridgend



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This report has been written with support and guidance from Reach at Bridgend County Borough Council.

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1 Project Vision

The **aim** of the project undertaken for BCBC was to better understand the options and viability of any community renewable energy schemes to help develop sustainable, resilient communities which have control over their energy future by reducing energy costs and potentially creating long term income sources for other community uses. Additional benefits include a positive impact on climate change.

The project identified layers of interest which, were analysed for alignment with community renewable schemes with scope for detailed business plan development and funding programme development.

Following opportunity mapping and options assessment exercises a shortlist of projects was identified with a total of 4.3MW of capacity with a total capital cost of £2.5m. This comprises the Schools and Pools Group, Ogmores Vale Group, Llangenor Group, Evanstown Hydro and incorporates a potential 850kW roof mounted solar, 3.4MW of heatpumps and 36kW of hydro.

2 Delivery model

Different project delivery models have been considered with a focus on enabling community funding and benefit. The economy of scale achieved by grouping projects together helps to mitigate additional cost which may be necessary for a community share offer and the legal agreements and site connectivity (pipes and cables etc) where many parties are involved.

The recommendation is that further development of this potential is focussed on a **single CBS** to develop multiple sites including the Schools and Pool group, the Llangenor Group, Ogmores Vale Group and the Evanstown Hydro Group. Once established this could include/exclude particular sites on a case by case basis at detailed stage (i.e. more schools or members of industrial estates etc).

Another key consideration is whether the community benefit should focus on reducing electricity price for the users or providing a community benefit fund for other purposes. It may be possible to achieve both to a degree, but it is helpful to understand the priority.

There are three significant advantages of aiming to have a community benefit fund:

- It makes it easier securing construction finance from social lenders
- It is a tangible benefit and makes it easier to sell community shares or other long term finance and attract support from local stakeholders
- The CBS can deliver much wider social outcomes, which in turn help BCBC with its obligations under the WBFG Act

There is only one disadvantage, which is,

- that money has to come out of the money that could otherwise be saved on electricity bills.

In practice, the "CBS" project may have to accept whatever PPA it can get in principle in terms of a Heads of Terms. It would then need to take a view as to whether this would deliver the social outcomes it was hoping to achieve or amend them accordingly. Then, if it became apparent that it would not be possible to raise the investment without sufficient social return, then the project would not proceed.

3 Summary of project potential

In general, Solar and Heatpumps appear to offer the potential for higher financial returns than Hydro and Biomass at the present time. This is largely thought to be due to the changes in subsidy levels but also the relative low price of natural gas. In addition, the 'fit and forget' nature of solar and heatpumps will minimal ongoing maintenance offer an advantage to end users.

A shortlist of projects is therefore identified with a total of 4.3MW of capacity with a total capital cost of £2.5m. This comprises the Schools and Pools Group, Ogmores Vale Group, Llangeinor Group, Evanstown Hydro and incorporates a potential 850kW roof mounted solar, 3.4MW of heatpumps and 36kW of hydro.

An approximate scale for each project has been estimated and a first order estimate for capital and operational costs has been made. A basic payback calculation has been used to compare the relative financial performance of the schemes.

Project	Feasibility assessment shortlist summary												Shortlist	
	Solar			Hydro			Biomass			Heatpump			Total	
	Capacity kW	Capex £k	Payback years	Capacity kW	Capex £k	Payback years	Capacity kW	Capex £k	Payback years	Capacity kW	Capex £k	Payback years	Capacity kW	Capex £k
Schools and Pools group	558	521	4.6 - 5.8	24	350	11.3 - 14.1	5,304	2,652	6.8 - 13.9	2,752	1,260	5.0 - 6.0	3,310	1,781
Ogwr Fawr group	40	38	4.7 - 5.9	-	-	-	690	345	6.8 - 13.9	-	-	-	40	38
Llangeinor group	250	231	5 - 6.4	-	-	-	517	259	6.8 - 13.9	688	315	5 - 6.2	938	546
Gilfach Goch group	-	-	-	36	201	7.4 - 9.2	-	-	-	-	-	-	36	201
Technology shortlist total	848	790	-	36	201	-	-	-	-	3,440	1,575	-	4,324	2,566

4 Next steps for subsequent projects

The feasibility process is proposed to be refined as far as possible for each of the projects following a CBS model. In summary this involves the follows steps:

- Initial heads of terms for energy Power Purchase Agreement and property owners
- Site specific feasibility
- Community Benefit Society formation

4.1 Initial Heads of Terms (Energy and Property)

The most critical next step is to ascertain whether the energy users identified in this exercise are willing and able to sign up to a Power Purchase Agreement with a community energy project. This will need to be for a duration of many years, ideally 20 years to give the security that the projects need to make a capital investment in generation equipment.

Similarly, if the project will make use of a building roof or other space, it will need to be able to rely upon the use of that property for the lifetime of the project. This may include a rental and other warranty obligations. A heads of terms would be needed quickly to give certainty that the project would be able to go ahead.

For the purposes of this study and based on the advantages highlighted in the draft report from Juno Energy & Gower Power (August 2017) the community benefit should aim to prioritise

providing a community benefit fund rather than focusing on reducing electricity price for the users.

4.2 Site specific feasibility

Project Development/ outline business plan

Based on recommendations for viability of taking forward community renewable schemes. Proposals for projects that can be taken forward by the LAG and rural community.

Technical

- Detailed discussions with building managers about practical issues and existing electrical and heat provisions.
- Site surveys, roof and ground surveys with existing infrastructure to enable initial design.
- Quotations for installations from qualified installers.
- Grid export agreements from WPD to confirm and secure available capacity and cost

Financial

- Project finance Model – indicative early stage financial model to understand potential profitability of community renewable investment (Return on Investment).
 - Financial viability of project
 - Fed in Tariff/ Renewable Heat Incentive
 - Projected project timeline

Regulatory

- Planning permission, confirmation for each project that is either permitted development or submission of an application.
- technical, regulatory and other challenges of local energy supply (selling energy to members)

4.3 Community Benefit Society formation

4.3.1. Consult stakeholders

Briefing / invites

- Set date(s) for stakeholder focus group(s) i.e. Community renewable workshop
- Identify council champions
- Identify external champions

Circulate briefing on aims and scope of the project and opportunity for input – for use in newsletters or email promotion of focus group

Focus group(s):

- Verbal briefing on scope of consultation
- Visual aids showing sliding scale of community ownership/responsibility/benefit
- Review of community ownership and benefit options and community participation roles
- Discussion of community participation roles and capacity within the community

- Option to express an interest in further involvement (which could be either Board Membership for a community scheme or local advisory group membership for a Council-run scheme?)

4.3.2. Set up CBS

As noted above, aside from the technical, detailed feasibility, licensing, planning and legal costs any renewable energy project would have to withstand, regardless of ownership structure; creating separate a legal entity for taking forward a community energy project(s) creates an additional layer of costs:

- community engagement
- incorporation costs and other legal
- business planning support
- accounts / financial forecasts
- marketing materials (basic website, banner & fliers)
- project management costs

4.4 Project estimates for next steps

Schools and Pools group	No.	Estimate
PPAs	10	£ 4,165
Solar survey	10	£ 2,817
Biomass survey	6	£ 1,950
Heatpumps survey	3	£ 1,300
Grid applications	10	£ 3,500
Planning applications	4	£ 3,200
Financial model	1	£ 650
CBS set up (Incl. consultation)	1	£ 5,000
Project management & reporting		£ 2,908
Total		£ 25,489

Ogwr Fawr group	No.	Estimate
PPAs	1	£ 2,325
Solar survey	1	£ 650
Biomass survey	1	£ 650
Grid applications	1	£ 350
Financial model	1	£ 650
CBS set up (Incl. consultation)	1	£ 5,000
Project management & reporting		£ 1,613
Total		£ 11,238

Llangeinor group	No.	Estimate
PPAs	1	£ 2,216
Solar survey	1	£ 650
Biomass survey	1	£ 650
Heatpumps survey	1	£ 650
Grid applications	1	£ 350
Planning applications	1	£ 800
Financial model	1	£ 650
CBS set up (Incl. consultation)	1	£ 5,000
Project management & reporting		£ 1,747
Total		£ 12,713

Gilfach Goch Group	No.	Estimate
PPAs	3	£ 2,649
Review project status	1	£ 1,950
Financial model	1	£ 650
CBS set up (Incl. consultation)	1	£ 5,000
Project management & reporting		£ 1,675
Total		£ 11,924

Grand total		£ 61,364
Grand total if single project		£ 39,205

Note that a significant saving is made through the development of multiple groups of sites, primarily as the set up costs for a draft PPA HoT and CBS set up can then be spread across all of the projects. If they are all done as a single project then the total is reduced to circa £39k.

In terms of the programme, it is expected that the first step would be the HoT, and where this was successful then the survey and further work would be undertaken for each site/group.

5 Contact

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