

FLINTSHIRE COUNTY COUNCIL

REPORT TO: **CABINET**

DATE: **THURSDAY, 16 OCTOBER 2014**

REPORT BY: **CHIEF OFFICER (PLANNING & ENVIRONMENT)**

SUBJECT: **LARGE SCALE RENEWABLE ENERGY OPPORTUNITIES**

1.00 PURPOSE OF REPORT

1.01 To advise Members of the opportunities open to Flintshire County Council in respect of large scale freestanding renewable energy systems and to seek guidance/approval to develop the opportunities that can be identified within Flintshire County Council's land holdings.

2.00 BACKGROUND

- 2.01 The Government has for a number of years been providing Feed In Tariff (FIT's) payments and Renewable Obligations Certificates (ROC's) as an inducement to Industry, Commerce and the general public for the installation of renewable systems that generate electricity. More recently the Renewable Heat Incentive (RHI) has commenced, which is similar in structure but as the title suggests provides payments for the heat energy that is produced by renewable heating systems. All of the Government schemes are payable for 20 years and are RPI linked.
- 2.02 Examples of FIT eligible technologies are solar Photo Voltaics, hydro power, wind turbines etc.
- 2.03 Examples of eligible RHI systems are biomass boilers (burning wood or plant material), air source and ground source heat pumps, Combined Heat and Power Systems (CHP), anaerobic digestion and solar thermal systems.
- 2.04 Favourable lending rates available to Local Authorities through Prudential borrowing, give us a distinct advantage over private developers, such that the 6% to 8% return on investment for large scale Photo Voltaic schemes or 12% to 15% return for larger scale wind turbines makes them potentially very attractive financially, and one way to generate a significant revenue stream to help Flintshire County Councils MTFP.
- 2.05 In recent months both the WLGA and APSE have been investigating ways to assist Local Authorities move from installing relatively small

scale renewable schemes to much larger commercial scale developments, and with the launch of the APSE Energy Initiative and the ability to access their framework of consultants to provide the necessary legal and technical expertise, there appears to be a clearer way forward.

- 2.06 Flintshire County Council has considerable land assets, ranging from Council farms to landfill sites, parks and woodland, and a wide variety of other parcels of land. Many have potential, either to develop as energy schemes or contribute to developing a more sustainable and profitable future.
- 2.07 The Government is conducting a consultation on their intention to reduce the eligible size of Photo Voltaic systems receiving payments of ROC's to projects of 5MW or less capacity from April 2015, but this still leaves plenty of scope for Flintshire County Council to take advantage of the FIT/ROC payments until they to are reduced or phased out, possibly in 2017/8. The Council therefore has a relatively small window of opportunity. April 2016 is deemed to be the date when risk associated with renewable energy projects increases.
- 2.08 The Council's Carbon Reduction Strategy has four primary strands to achieve the 60% reduction target for carbon emissions from County buildings by 2021. One of the most significant elements is the development of large scale renewable generation, which will be essential if we are to reach our target. This was identified in a Carbon Trust report on Flintshire progress to achieve its Carbon Reduction Strategy Target.
- 2.09 The Welsh Government are also investigating ways to promote and encourage large scale renewable development in Local Authorities, and potential funding has been suggested, (potentially several hundred £million) though how this is to be accessed, or what criteria will be necessary is still uncertain.

3.00 **CONSIDERATIONS AND CONCLUSIONS**

- 3.01 Following the Welsh Government's recent request for information on potential renewable energy schemes in all Welsh Local Authorities, an initial assessment of potentially suitable sites was undertaken, and a number are now being assessed for their suitability, and to identify any issues that might prevent their development.
- 3.02 Early comment from the Planning Department on the potential development of "brown field" sites for renewable generation are not in conflict with planning policy.
- 3.03 The benefits of developing large scale renewable projects in Flintshire are not limited to the Government's financial incentives, through FIT's or RHI etc, but includes security of supply, lower energy costs, lower

carbon emissions, as well as a reduced risk of utility cost inflation, all resulting from using our own generated energy.

- 3.04 In addition to the environmental benefits of green energy generation, some of the energy generated could also be used to power our own electric/hydrogen fleet of vehicles, significantly reducing operating costs and pollution.
- 3.05 In order to utilise the electrical energy generated from such schemes there are a number of options open to Flintshire. These range from entering a Power Purchasing Agreement (PPA) with a supplier, to having a “private wire” installed to take the energy from the point of generation to a nearby depot or public building. Such choices will need to be considered on a site by site basis.
- 3.06 To move a potential scheme from concept to completion through all the feasibility, planning and technical processes as well as the due diligence checks is estimated to take 12 to 18 months. Since this period is only just short of when the Government have indicated reductions to the incentives for Solar P.V schemes, time is of the essence.
- 3.07 Now there is a Government incentive through the RHI, it is considered worthwhile investigating the possibility of developing a Flintshire County Council (or joint development with neighbouring Authorities) wood fuel storage and chipping facility, to supply our own buildings biomass boilers (currently 2 primary schools). The current cost of purchased woodchip is approximately 4.5p/KWh, but with a “free “ supply of wood this could be reduced to approx 2p/KWh to 2.5p/KWh, ie the costs of labour and associated works to store, produce and deliver the woodchip.
- 3.08 In 2011 Cadwyn Clwyd commissioned a wood fuel review for Flintshire County Council. The subsequent report identified circa 200 tonnes of suitable wood arisings from Flintshire’s own street works and countryside parks. A similar amount of wood from Flintshire farmers and other local sources was also identified.
- 3.09 In order for woodchip to become a cost effective fuel for Flintshire buildings, with the potential to sell excess to other customers, it would be sensible and appropriate to consider planting up suitable land to harvest in future years. Such planting would enhance the natural environment and provide a long term and sustainable supply of wood.
- 3.10 Large scale developments such as those being proposed in this report carry inherent risks, due to the complexity, and capital value of the projects. However there is now sufficient understanding of the associated risks that this should not be an obstacle, provided such risks are effectively managed. Indeed the development of such projects will mitigate the very real risk of rising energy costs, and reduce the County’s expenditure on energy.

- 3.11 A number of Local Authorities have already begun the process of building or developing large scale renewable energy projects and these include:
- Preston City Council (9WM wind farm proposed);
 - Bristol City Council (built 5 MW wind farm);
 - Wrexham CBC (solar PV on 3,000 council houses);
 - Dumfries and Galloway (solar PV on Council buildings);
 - Stockport MBC (development of biomass supply chain);
 - Cornwall Council (built 5 MW land based solar farm).

4.00 RECOMMENDATIONS

- 4.01 That Members give approval for Officers to identify all suitable large scale renewable energy sites within Flintshire County Council's ownership and undertake initial assessments of their viability, and potential yield. Details of these sites and a development programme to be brought back to Cabinet for comment/approval.
- 4.02 That Members approve the development of a 10 year action plan, detailing options and aspirational targets as a route map to achieving the Council's existing Carbon Reduction Strategy for renewable energy generation, and ultimately the potential to become a net exporter of electrical energy.
- 4.03 That a budget of £50 k be allocated for this work.

5.00 FINANCIAL IMPLICATIONS

- 5.01 Current indicative Prudential borrowing rates are 3.5% to 4% so with returns of between 6 and 15% (excluding additional benefits) dependant upon the technology employed and individual site requirements, such schemes should always produce a positive out turn.
- 5.02 An alternative financial option that warrants consideration would be to enter into a joint venture arrangement, where Flintshire County Council would perhaps provide suitable land, and a partner organisation some or all of the funding and undertake the development and installation works. However, as the partner organisation would have to manage most of the risks, the returns to Flintshire would be significantly diminished to reflect this. However, such arrangements should be considered as part of each site's financial assessment and any decision taken when all factors have been appraised.
- 5.03 A spreadsheet of Capital expenditure against predictive annual income (from FIT payments) and energy cost savings is attached, this shows annual income streams from a small number of hypothetical schemes, similar in nature to the sites already identified in this report.

5.04 As identified in para 3.05 above there are a number of ways to use the electricity generated from such schemes, but potentially 80% savings against the cost of purchasing energy from a utility company are achievable. One medium sized P.V. array of 400KWp would yield revenue reductions of circa £25,600 p.a. at today's prices.

6.00 ANTI POVERTY IMPACT

6.01 No direct impact initially, though in the longer term, (subject to changes to suppliers licences currently being considered by Central Government), there is the possibility of Flintshire becoming an energy supplier and selling energy at discounted rates to local residents, especially those in fuel poverty.

7.00 ENVIRONMENTAL IMPACT

7.01 Overall beneficial, as any renewable scheme will reduce the amount of carbon dioxide emitted into the atmosphere which is believed responsible for manmade climate change. Individual schemes may, depending on technology, have a local and/or visual impact.

8.00 EQUALITIES IMPACT

8.01 None.

9.00 PERSONNEL IMPLICATIONS

9.01 There is a considerable amount of work required to pull together and develop the options within this report, so additional resources will be required for a period of perhaps 12 to 18 months initially, and reviewed depending on progress/renewable scheme activity thereafter.

10.00 CONSULTATION REQUIRED

10.01 APSE Energy, Steven Cirell (Energy Consultant), West Coast Energy (feasibility reports of identified sites) and David Kilduff (Walker Morris Co. regarding legal guidance).

11.00 CONSULTATION UNDERTAKEN

11.01 APSE, Walker Morris, Steven Cirell-Energy Consultant, Welsh Government, internal Planning advice and Procurement and Finance.

12.00 APPENDICES

12.01 Large scale renewable financial returns.

LOCAL GOVERNMENT (ACCESS TO INFORMATION) ACT 1985

Background Documents:

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