

FLINTSHIRE COUNTY COUNCIL

REPORT TO: **CABINET**

DATE: **TUESDAY 16 JUNE 2015**

REPORT BY: **CHIEF OFFICER (STREETSCENE AND
TRANSPORTATION)**

SUBJECT: **PROPOSED SOLAR ENERGY FARMS AT
FORMER LANDFILL SITES**

1.00 PURPOSE OF REPORT

1.01 To inform Cabinet of the sites which have been identified as being potentially suitable to install renewable energy systems and seek Cabinet approval to proceed to the detailed business/feasibility stage and the submission of outline Planning applications for both of the sites

2.00 BACKGROUND

2.01 A report was submitted to Cabinet on the 30 September 2014 which identified the benefits and opportunities surrounding the development of large scale renewable energy projects in the County.

2.02 Following a national Government consultation process, which considered reducing or possibly ending many of the financial benefits of investment in such renewable energy schemes by 2017/18, it is important that if Flintshire County Council is to take advantage of the incentives currently available, that those schemes that have passed through an initial appraisal are taken to full feasibility and business case. This will require tenders to be invited to obtain actual development costs that will enable full feasibility and business cases to be completed and determine the final return on investment from the projects. This will then allow Cabinet to make a final decision on the projects.

2.03 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. This includes the launch of the APSE Energy Initiative and the ability of Councils to access a framework of consultants to provide the necessary legal and technical expertise needed to assess the viability of individual projects.

- 2.04 The Council's Carbon Reduction Strategy has four primary strands to achieve the 60% reduction target for carbon emissions by 2021. One of the most significant elements is the development of large scale renewable energy generation projects, which will be essential if the Council are to reach the challenging target. This point was identified in a Carbon Trust report on Flintshire's progress to achieve its Carbon Reduction Strategy Target.
- 2.05 The Welsh Government are also investigating ways to promote and encourage large scale renewable developments in local authorities, and potential funding has been suggested, although details are presently unknown.

3.0 CONSIDERATIONS AND CONCLUSIONS

- 3.01 Two former Landfill sites at Standard and Brookhill in Buckley have been identified as potential locations for solar farms. The two sites currently produce electricity through turbines, powered from the methane produced by the decaying biodegradable waste material within the capped landfill site. The electricity is currently exported to the national grid through direct grid connections at both locations.
- 3.02 There is increasing capacity in the grid connections at both sites, as gas levels generated by the landfill sites naturally fall. Currently the available capacity within the grid connections at the two sites are as follows:
- Standard Landfill - 500 KW (existing supply capacity of 1.125MW)
- Brookhill landfill - 500 KW to 800 KW (existing supply capacity of 1 MW)
- 3.03 The proposed Photo Voltaic (P.V.) installations will therefore be sized to maximise the use of the available electricity network without exceeding the stated limits of the grid connections.
- 3.04 The two landfill sites are relatively straightforward to progress because of their suitable existing grid connections and as there is little in the way of unknown costs in connecting the proposed PV installations to the existing network. Confirmation will be required from Scottish Power during the feasibility study that there are no network issues that will arise from Photo Voltaic generation and to assess the cost of mitigating the effect, if this is necessary. This exercise will form part of the final feasibility study
- 3.04 Early comment from the Planning Department on the potential development of "brown field" sites for renewable generation have indicated that such uses are not in conflict with current planning policy.

- 3.05 The benefits of developing large scale renewable projects in Flintshire are not limited to the Government's financial incentives, through Feed In Tariff's (FIT's) or Renewable Heat Incentive (RHI) etc, but in future the initiative could form valuable insurance against security of supply risks, as well as lowering the risk of utility cost inflationary pressures.
- 3.06 Whilst the two Buckley Landfill sites are relatively simple to develop from a technical perspective, there may be issues to resolve surrounding the public rights of way across both sites. However, it is hoped that with some flexibility on the location of the panels, there will be no need to change the existing routes of the footpaths. The County therefore need to be aware of this and submit mitigating measures within the planning application following consultation with the Council's Public Rights of Way team.
- 3.07 In order to fully utilise the full benefit of the electrical energy generated from these and any future schemes there are a number of options open to the County Council. These range from entering a Power Purchasing Agreement (PPA) with a national supplier and providing a "private wire" which would take the energy from the point of generation to a nearby depot or public building. Such choices do not need to be decided now but can evolve as the electricity supply industry regulations become more amenable to independent generators.
- 3.08 Due to the close proximity of Brookhill landfill site to Alltami Depot, it is entirely feasible for the electricity generated at Brookhill to be connected via a "private wire" arrangement to Alltami Depot, effectively eliminating the current £100k (approx.) annual electricity costs at the site. A decision on this option will be considered as the second phase to the current project and a final decision on this matter can be taken at a later date.
- 3.09 The provision of a private wire connection between Brookhill and Alltami depot would open up further opportunities for the use of an electric vehicle fleet by the service and the provision of charging points within the depot. This would provide the potential for significant future financial and carbon savings to the authority from the fuel currently used by the fleet vehicles
- 3.10 Streetscene and Transportation portfolio have identified the potential savings provided by additional energy generation and the improved maintenance of the gas turbines at the two landfill sites within their 2016 – 16 Business Planning proposals.
- 3.11. As previously detailed, timing is critical to maximise the financial benefits to Flintshire County Council of investment in large scale renewable schemes such as those suggested in this report. Subject to approval of the final business case by Cabinet the projects could be operational by spring 2016.

4.00 RECOMMENDATIONS

- 4.01 That Cabinet supports the two projects and approves the development of the detailed feasibility and business cases through the engagement of specialist support through the APSE energy initiative to provide the necessary financial and legal due diligence checks. .
- 4.02 That a further report is submitted to Cabinet following completion of the feasibility and final business case work which recommends the most appropriate financing arrangement and seeks final approval for the project
- 4.03 That Cabinet approves the submission of an outline planning application for the solar farm schemes at Standard and Brookhill landfill sites.

5.00 FINANCIAL IMPLICATIONS

- 5.01 The schemes are not currently included within the capital programme and capital cost estimates for both schemes are circa £1.53M but the final figure will be dependent on the size of the installed Photo Voltaic array system. The final cost will only be known post tender when capital funding would then be sourced. The funding could either be general capital funding from capital receipts generated or more likely unsupported (prudential) borrowing.
- 5.04 The expected net benefit, after allowing for potential capital and interest repayments, and ongoing management and maintenance costs is estimated to be between £1.385M and £2.04 M over 20 years, from what are relatively small schemes. The exact returns are therefore dependant on whether the projects are funded via Prudential borrowing (or similar) or financed from existing budgets /reserves.

6.00 ANTI POVERTY IMPACT

- 6.01 No direct impact

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 man-made climate change. Individual schemes may, depending on the technology selected, have a local and/or visual impact

8.00 EQUALITIES IMPACT

- 8.01 None

9.00 PERSONNEL IMPLICATIONS

9.01 It is anticipated that for the initial schemes, since much of the preliminary work has been completed, only assistance with planning applications and specialist legal advice will be required from consultants. These will be supported and assisted as and when necessary by existing staff.

10.00 CONSULTATION REQUIRED

10.01 Local Members and the Public Rights of Way team.

11.00 CONSULTATION UNDERTAKEN

11.01 APSE, Walker Morris, Steven Cirell-Energy Consultant, Welsh Government, Internal Planning advice, Procurement advice. Corporate finance. Public Rights of Way team.

11.02 With Cabinet Member

12.00 APPENDICES

12.01 None

LOCAL GOVERNMENT (ACCESS TO INFORMATION) ACT 1985

Background Documents:

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