



RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL

CLIMATE CHANGE CABINET SUB COMMITTEE

07 March 2024

**UPDATE REPORT ON KEY ENERGY GENERATION PROJECTS
AND RELATED ISSUES**

**REPORT OF THE DIRECTOR OF CORPORATE ESTATES IN
DISCUSSIONS WITH THE CABINET MEMBER FOR CLIMATE CHANGE
AND CORPORATE SERVICES, COUNCILLOR C. LEYSHON**

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1. PURPOSE OF THE REPORT

- 1.1 The purpose of the report is to provide the Climate Change Cabinet Sub Committee with details of the work underway on the development of renewable energy projects and certain other Carbon Reduction related issues.

2. RECOMMENDATIONS

It is recommended that Members:

- 2.1 Note the contents of this update report as part of the ongoing work of the Climate Change Cabinet Sub Committee.
- 2.2 Agree to receiving further reports during 2024 and 2025, providing updates on progress within key areas.

3. REASONS FOR RECOMMENDATIONS

- 3.1 The contents of this report provide background information and key updates on the current situation with regards to the issues covered by the Climate Change Cabinet Sub Committee. It provides an update on the proposals for the Council to build and finance potential renewable energy projects that will make a significant contribution to the Council achieving its Carbon targets towards 2030 and also provides an update on other key strategies, plus plans to reduce the Council's Carbon impact.

4. BACKGROUND

- 4.1 Officers have previously reported on the ongoing work to investigate the potential of using RCT owned land for the development of major renewable energy projects for both wind, hydroelectric and solar generation, with the assistance of the Welsh Government Energy Service (WGES). These are projects which would be primarily developed by the Council, either exclusively or in partnership with other stakeholders. As such, the projects would both contribute to the increase in the renewable energy provision and carbon reduction in the area, whilst also making a positive economic contribution to the financial situation of the County Borough, which could then be invested in further related improvements or other services for the benefit of citizens.

5. RENEWABLE ENERGY PROJECTS

5.1 Solar Farm Installation

As reported previously, the Council continues to make significant progress in the development of a 6MW Land Based Solar Farm, to be located on Council owned land at Coed Ely. The facility will, when constructed, be an asset owned and operated by Rhondda Cynon Taf County Borough Council. The project has the potential to 'offset' over 1,100 tonnes of carbon per-annum and around 47,000 tonnes over the expected 40yr lifecycle of the project (*subject to final detailed design*). This will take the Council's portfolio of renewable energy potential, from Solar alone, to over 8MWp.

The project is due to be presented to Council in March for funding approval and subject to this, a contractor will be appointed in Spring 2024. The appointment will consist of a Design, Build, Operate and Maintain contract.

5.2 Hydro Electricity Prospects

The Council continues to make progress with the development of a 50kW high-head hydroelectric scheme at Dare Valley Country Park. The project proposes to provide a direct private wire connection to the hotel complex, on site, which will provide approximately 80% of its electricity needs. A preliminary design has been completed and relevant site study work is currently being undertaken, to support a planning application later in 2024. This project, if realised, will have the potential to offset 41 tonnes of Carbon per annum and directly decarbonise the hotel facility.

Officers are currently working with specialist consultants to review the feasibility of a 300kW low-head hydroelectric scheme at Treforest Weir. This scheme has the potential to offset over 270 tonnes of Carbon per-annum. Options are being explored to evaluate how best to utilise this electricity within the local area to decarbonise Council assets. The initial feasibility assessment appears favourable and survey work is now

underway to inform a design that will allow the team to progress submitting a planning application for the scheme, subject to further approval.

The Team have also now identified and undertaken assessments on a series of potential opportunities for Hydro Electric generation within the boundaries of the wider County Borough. A wider ranking report was commissioned on over 30 potential sites and further feasibility work is now being undertaken to assess the potential of 6 of these prospective schemes, all of which are based on the principle of high-head generation, with a view to directly decarbonising Council assets. These schemes will be presented to members in future reports once their assessments are fully concluded, and as appropriate.

5.3 **Other Solar & Wind Power Aspirations**

The lack of spare grid capacity at the National Grid (NG) 'Upper Boat' distribution hub continues to prove a barrier to progress, prior to completion of major infrastructure investment works, planned in the area over the next 5yrs. Prior to this juncture, the likelihood of obtaining any scalable grid connections, above 999kW, remains highly unlikely.

Notwithstanding the above, the Council was previously successful in obtaining two grid connections from NG in pursuit of its aspirations to generate renewable energy, the first option for 4.2MW at 11kV and a second for 6MW at 33kV. Discussions have been underway, for some time, with several developers who have plans to construct wind turbines on land adjoining to that owned by the Council.

Following negotiations, the 4.2MW grid connection offer was novated to a 'national' developer to enable them to realise the full potential of their adjacent site. The Council will be given the opportunity to invest further in the project when construction starts, and the agreement arrived at with the developer recovered all our initial investment and also secured substantial community benefits, moving forward, including the potential for a small future stake in the facility irrespective of the outcome of any future talks. Discussions with the developer have been ongoing, periodically, and we have been advised that they have now secured investment to enable the project to proceed, although some major challenges with the access route remain.

At a different location, initial success in securing a 6MW grid connection offer from National Grid (*NGED*) resulted in discussions taking place with a 'local' developer, that already had plans to create a far larger windfarm on an immediately adjacent site. Dialogue has been ongoing to explore our options for collaborative working and how it could benefit both parties. Subsequently, a feasibility study was commissioned, following discussions with both the adjacent developer and the Council's Tips Team, to determine the suitability of the site. It should be noted that the findings of the report limit what can be developed at the site. Also *NGED* have applied a significant increase in their latest estimate, which is a periodic revision to the original grid offer. Both of these factors now mean

that the potential viability of the project will now need to be quickly reassessed, in light of the latest information, before moving forward.

Discussions have previously been held with a third 'local' developer and an Independent Distribution Network Operator (IDNO), to determine the feasibility of decarbonising a cluster of RCT operated sites within the vicinity of one of our major town centres. This would be achieved by the creation a mini network to distribute electricity to identified sites connecting effectively "behind the meter", from a central distribution point. Discussions relating to this subject have now been paused to await the findings of a working group set up by the Welsh Government Energy Service (*on which we are represented*), the findings of which will help determine any potential, future carbon benefits from undertaking such a project.

Feasibility studies are being undertaken at some of our brown field sites, to determine their suitability for use as future land based Solar Farms. These initiatives are on a smaller scale than the project at Coed-Ely, and given the lack of grid connection opportunities, the purpose of these potential projects would be to help decarbonise adjacent Council assets, behind the meter wherever practicable.

6. UPDATE ON OTHER RELATED AREAS OF WORK

6.1 Carbon Reduction Programme

The 2023/24 programme is now in the final quarter of delivery. The works include a wide range of proposals including such schemes as Solar PV, LED Lighting, BMS Controls and Boiler Upgrades, etc. The programme for 2023/24 is valued at around £2M and will result in annual carbon savings of 558 tonnes (*CO₂e*). When this figure is added to savings from previous years (*dating back to fy'2009/10*), the equivalent *CO₂e* annual savings, resulting from this programme, are now in the region of 6,442 tonnes per annum.

6.2 Geo-Thermal Technology

The ground-breaking 'geo-thermal heating' project, involving Taff's Well Thermal Spring, is now complete with the addition of the new school extension. The completion of this project, together with the refurbishment of the nearby park pavilion, means that the full extent of the heat network project is now in operation. The estimated annual carbon saving of this project being around 17tonnes (*CO₂e*).

The lessons learned during this project will act as 'stepping-stones' to potentially develop other future heat recovery networks, involving 'mine water', at targeted locations within the County Borough, or in potential partnerships with adjacent authorities. Discussions with the Coal Authority (CA) have now restarted to assess potential 'pilot' projects within RCT. One feasibility study/report has already been received for an ambitious initiative at Rhondda Heritage Park and Welsh Gov't have recently approved stage 2 grant funding, direct to the CA, in order to

facilitate further research into the proposals. If deemed viable, the project may also have the potential to help heat/decarbonise a nearby school.

6.3 **Amgen Developments**

The 1.5MW wind turbine project at Nant-y-Gwyddon was installed, by Infinite Renewables, during 2023 and is now well into its first yearly cycle of generation, having been fully operational since last September.

The 300kW land based solar PV development, proposed at the Bryn Pica site, has overcome some issues with grid export constraints, and Officers are now looking to take the scheme to the Amgen board for approval in March 2024. If realised the project will be used to help decarbonise waste and recycling operations at the site.

6.4 **Local Area Energy Plan (or LAEP)**

In early 2023, funded by Welsh Government, the Cardiff Capital Region (CCR) commissioned a team of specialists to prepare Local Area Energy Plans for each Local Authority in the region. The ambition of the Rhondda Cynon Taf Local Area Energy Plan (or LAEP) is to establish a comprehensive framework that enables the council, in collaboration with partners and stakeholders, to achieve a zero-carbon local energy system by 2050 for Rhondda Cynon Taf.

The Rhondda Cynon Taf LAEP has been methodically developed through a series of strategic workshops, facilitated by our Officers. These workshops were instrumental in identifying and prioritizing six critical intervention areas: Retrofit Whole Buildings, Decarbonise Transport, Deploy Onshore Renewables, Foster Innovation, Reinforce Electricity Distribution Network, and Transition of the Gas Network.

The development of the LAEP forms a part of a region-wide initiative, with all LAEPs across the Cardiff Capital Region anticipated to be fully developed by end of March 2024, ready for approval and adoption into the future development plans of all Councils, and the LAEP will be the subject of a separate report later in 2024. The LAEP represents a comprehensive and forward-looking approach to energy planning in the wider County Borough of Rhondda Cynon Taf, and its intention is that it will be underpinned by community engagement, evidence-based decision-making, and a commitment to sustainable development.

7. **EQUALITY AND DIVERSITY IMPLICATIONS / SOCIO-ECONOMIC DUTY**

- 7.1 This supporting report is for the purpose of update and consequently an Equality Impact Assessment is not required with regard to this report.

8. **WELSH LANGUAGE IMPLICATIONS**

- 8.1 This supporting report is for the purpose of update and consequently Welsh Language Impact Assessment is not required with regard to this report, however a copy can be made available in Welsh if requested.

9. CONSULTATION / INVOLVEMENT

9.1 There are no consultation requirements at present with regards to this supporting report.

10. FINANCIAL IMPLICATION(S)

10.1 All existing 'live' projects are currently funded through relevant cost centres and an existing enabling budget, so there are no further financial implications aligned to this interim report.

10.2 It should be noted that the cost of borrowing has now risen above the level used in all previous financial models used in various project assessments. Also, the recent wholesale market rises in energy costs, together with the future unpredictability of the market, mean that constant review and reassessment of the viability of projects is now necessary, and on a more frequent basis.

11. LEGAL IMPLICATIONS OR LEGISLATION CONSIDERED

11.1 There are no legal implications aligned to this update report.

12. LINKS TO THE CORPORATE PLAN / OTHER CORPORATE PRIORITIES.

12.1 The Council has committed to becoming a Carbon Neutral organisation by 2030 and to work with residents and businesses to ensure the whole County Borough is Carbon Neutral as close as possible to the 2030 target. This supports the priorities of the Council's Corporate Plan 'Making a Difference' – 2020-24.

12.2 The Well-being of Future Generations Act asks public bodies to work better with people, communities, and each other, to meet the Sustainable Development principle. The Council's approach to the implementation of the Act agreed by Cabinet is to make sure that its requirements are embedded into the everyday business.

- A Healthier Wales
- A More Equal Wales
- A Resilient Wales
- A Cohesive Wales
- A Vibrant Wales
- A Prosperous Wales
- A Globally Responsible Wales

12.3 The purpose of the report is to provide an interim update and highlight any future actions that may arise as a result of the recommendations of the Climate Change Cabinet Sub Committee, and any actions resulting from the report will pay full regard to the seven national wellbeing goals.

13. CLIMATE CHANGE IMPLICATIONS

13.1 The intent of this report is in furthering the ambitions for the Council's Climate Change Agenda.

13.2 This report is for the purpose of update only, however if the potential as described herein is realised, the outcomes will make a positive contribution towards tackling climate change and help decarbonise the Council's Estate and/or Activities.

14. CONCLUSION

- 14.1 This report provides background information and an update on the current situation with regards to the issues covered by the Climate Change Cabinet Sub Committee. It provides updates on the proposals for the Council to build and finance potential projects that will make a significant contribution to the Council achieving its Carbon targets. It also provides key updates on other keynote associated workstreams and plans to reduce the Council's Carbon impact.

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