

BRIDGEND COUNTY BOROUGH COUNCIL

REPORT TO CABINET

23 JULY 2019

REPORT OF THE CHIEF EXECUTIVE

CAERAU MINE WATER HEAT PROJECT

1. Purpose of Report

1.1. The purpose of this report is to:

- 1.1.1. update Cabinet on the Caerau Mine Water Heat Project;
- 1.1.2. delegate authority to the Section 151 Officer, subject to the approval of the and Head of Legal and Regulatory Services, to accept a revised funding offer from the Welsh European Funding Office (WEFO); and
- 1.1.3. delegate authority to the Chief Executive, in consultation with the Section 151 Officer and the Head of Legal and Regulatory Services, to enter into any funding and/or legal agreements required as a result of accepting the revised funding offer from WEFO.

2. Connection to Corporate Improvement Objectives/Other Corporate Priorities

2.1. This report supports the following corporate priorities:

- Supporting a successful economy – taking steps to make the county a good place to do business, for people to live, work, study and visit, and to ensure that our schools are focused on raising the skills, qualifications and ambitions of all people in the county.
- Smarter use of resources – ensuring that all its resources (financial, physical, human and technological) are used as effectively and efficiently as possible and support the development of resources throughout the community that can help deliver the Council's priorities.

3. Background

3.1. Bridgend County Borough Council (BCBC) was selected as a demonstrator for the Smart Systems Heat (SSH) Programme in October 2014. One of the key deliverables of this programme was the adoption by Cabinet in February 2019 of the Local Area Energy Strategy (LAES) and the Smart Energy Plan (SEP). This was developed in partnership with the Energy Systems Catapult (ESC). Overall, the SSH programme was divided into 3 phases, outlined below in relation to the development of the Caerau Mine Water Heat Project:

- Phase 1 2015 - 2018 - This phase involved using the EnergyPath Network suite of tools to create a Low Carbon Transition Strategy for Bridgend County Borough, detailing how the County Borough can meet the UK decarbonisation targets by 2050.

- Phase 2 Development 2016 – 2019 - This phase involves the development of the funding package for the project, establishing the scope of the demonstrator schemes, engaging with residents and commercial stakeholders and creating the delivery structure for the programme.
 - Phase 3 Delivery 2019 and beyond – this phase will be the construction and monitoring phase of the programme which will test the concept and methodology of the project, and most importantly that the approach can be adopted nationally and provide an evidence base for future UK and Welsh Government (WG) policy.
- 3.2. BCBC proposed the Caerau Mine Water Heat Project as one of the demonstrator projects for the SSH Programme. The project is highly innovative and proposes to extract heat from water contained within flooded former coal mine workings to provide a resource for properties within Caerau. The mine water will have heat extracted and transferred to a clean water circuit. This water would be transported via a network of pipes to local energy centres where the temperature would be boosted to the required temperature by ground source heat pumps and then circulated to the residents' houses.

4. Current Situation / Proposal

- 4.1. BCBC submitted an Operation Logic Table (OLT) to WEFO on the 3rd June 2016 for the Caerau Mine Water Heat Project. WEFO then took the OLT to their Programme Management Group who approved the OLT and BCBC were invited to submit a business plan as part of the ERDF funding process.
- 4.2. Work on the business plan commenced in September 2016 in partnership with the ESC. The business plan went through several versions during an ongoing dialogue with WEFO and the final plan for approval was submitted in September 2017 under ERDF Priority 3 Renewable Energy and Energy Efficiency – SO3.2: Increasing the number of commercially viable small scale renewable energy schemes.
- 4.3. WEFO made a formal grant offer to BCBC (dated 13th November 2017) for £6,498,943. The offer was accepted by Corporate Director Communities under delegated authority.
- 4.4. A feasibility study was completed in 2018 which showed that water is present beneath the village at a consistent temperature of 20.5°C and a techno-economic model is near completion which seeks to establish the commercial position of the project.
- 4.5. The Coal Authority has undertaken a mine water resource assessment beneath the village and this will be validated through further investigations during 2019. Hitachi has completed an assessment of local energy supply options for the heat pumps and as an alternative to a grid connection a connection to a local wind farm via a private wire is being explored.
- 4.6. The findings of the work to date and structural changes within BCBC have resulted in the need to submit revised proposals to WEFO, in order for there to be a revised

funding letter with an increased grant offer. This will better reflect the current understanding of:

- The total financial package and when costs will likely be incurred
- The most up to date delivery timetable and the progress made to date
- Structural changes made by BCBC that have enhanced the staffing arrangement, revised aspects of the project roles and improvements to BCBC governance arrangements
- The involvement of external stakeholders in the project through the external stakeholder group and in particular of ESC by becoming a joint beneficiary.

4.7. The revised proposals will be submitted to WEFO in July 2019, subject to approval from the Section 151 Officer. WEFO will undertake an assessment of the revised proposals and, if approved, shall issue a revised funding letter to BCBC. If any of the proposed changes or revised terms and conditions are considered unacceptable, then officers will consider the implications and associated risks and escalate as required. Legal and financial approval shall also be sought. Acceptance of the above revisions and agreement of revised funding offer will ensure a shared understanding of the project based on current information between BCBC, WEFO and key stakeholders.

4.8. As mentioned above, the Caerau Mine Water Heat Project is considered as an innovation project. There are a number of decision gates at each of which a decision will be prompted as to whether the project should proceed or be stopped. If appropriate, further reports will be brought to Cabinet in relation to these decision gates. These decision gates along with estimated dates of when they may occur and the proposed project outputs and outcomes are summarised in Table 1 below. The outputs column identifies what will have been delivered at these key points should for any reason the project not proceed past the decision gate.

Table 1: Caerau Mine Water Heat Project – Decision Gates

Decision Gate	Estimated date	Project outputs/outcomes/Learning achieved by decision gateway point
If Mine water investigations do not show sufficient mine water available the scheme may not proceed.	Early 2020	Developed techno-economic model for a district heating scheme using heat pumps and mine water. Experience of consumer consultation for a domestic district heating scheme. Learning about the use of mine water as a heat source.
If Detailed Project Development and Outline Business Case do not demonstrate that the project is viable the scheme may not proceed.	Early 2020	As above, and: Detailed Project Development for a district heating scheme using heat pumps and mine water.
If BCBC is unable to	Early 2021	As above, and:

appoint a Design Build Operate and Maintain Contractor (for example, due to a failed tender process) the scheme may not proceed.		Learnings from the tendering process
If insufficient households sign up to the heat contract for the scheme to be viable the scheme may not proceed.	2022	As above, and: Learnings from the marketing of heat contracts to house

4.9. The Caerau Mine Water Heat Project is overseen internally via a Project Internal Governance Board which is comprised of officers from relevant Council departments. This reports to the Energy Programme Board which is tasked with overseeing the overall delivery of the SEP. Issues are escalated from the Energy Programme Board to Communities Directorate Management Team and Corporate Management Board as required.

4.10. An external Stakeholder Group exists which provides advice and support to the Project Team. This is fed through to the Project Internal Governance Board via the Project Manager. This Group is made up of representatives from:

- Welsh Government
- BCBC
- Energy Systems Catapult
- Coal Authority
- British Geological Survey
- Natural Resources Wales
- Cardiff University
- Coalfields Regeneration Trust
- Valleys to Coast

5. Effect upon Policy Framework& Procedure Rules

5.1. There are no effects on BCBC's Policy Framework and Procedure Rules.

6. Equality Impact Assessment

6.1. It is considered that there will be no negative impacts from this report.

7. Well-being of Future Generations (Wales) Act 2015 implications

7.1. The Caerau Mine Water Heat Project is a positive step in regard to the Council's role in complying with the Well-being of Future Generations (Wales) Act 2015. BCBC is taking a positive proactive role within the decarbonisation agenda which will ensure that the significant environmental, social and economic opportunities created through the decarbonisation transition of the energy market will be captured.

7.2. In terms of meeting the 5 ways of working within the Act:

Long Term: The project will provide a key opportunity to deliver decarbonised heat system that support efforts through an innovation project to meet the UK decarbonisation targets.

Prevention: The project will provide an opportunity for those impacted in the community of Caerau to benefit from the decarbonisation transition and ensure that solutions are designed and available for everyone and not just the ability to pay market.

Integration: The project will offer carbon reductions, reduced fuel bills and create economic opportunities through a clearly identified value chain.

Collaboration: BCBC is working with both UK Government and Welsh Government as well as private sector partners to deliver the decarbonisation agenda.

Involvement: The project involves working with a variety of stakeholders to deliver sustainable solutions around the delivery of decarbonised heat for residents.

8. Financial Implications

8.1. The original funding profile for the project and the proposed revised profile are compared below:

Project element	Original profile costs (£'000)	Revised profile costs (£'000)
Construction Costs	5,189	6,294
Professional Services	2,071	2,188
Accommodation	148	305
HR costs	2	0
Staff and Travel	1,825	839
Overhead	187	125
Total	9,422	9,751

8.2. The match funding for the proposed revised profile is secured from the following sources, compared to the original profile:

Funder	Original funding breakdown (£'000)	Revised funding breakdown (£'000)
Welsh Government	1,430	1,469
BCBC 31% of Staff Costs	253	232
BCBC Staffing (retrospective costs)	50	123
BCBC Earmarked Reserve	0	45
Scottish Power	108	65
Standing charge for heat revenue	65	453
DECC - Staffing match	0	77
WEFO Grant (capital)	4,637	6,293
WEFO Grant (revenue)	1,862	994
Total investment	9,423	9,751

8.3. The proposed revision in the funding profile will increase the funding offer from WEFO from £6,498,943 to £7,287,000.

8.4. The requirements of WEFO will be such that evidence will be required to demonstrate that all necessary processes have been carried out and that all relevant notices, licenses, permissions and consents will be served and/or obtained to ensure compliance. This will include adherence with EU State Aid and procurement requirements.

9. Recommendation

9.1. Cabinet is recommended to:

9.1.1 Note the progress to date of the Caerau Mine Water Heat Project;

9.1.2 delegate authority to the Section 151 Officer, subject to the approval of the Head of Legal and Regulatory Services, to accept a revised funding offer from WEFO; and

9.1.3 Delegate authority to the Chief Executive, in consultation with the Section 151 Officer and the Head of Legal and Regulatory Services, to enter into any funding and/or legal agreements required as a result of accepting the revised funding offer from WEFO.

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CHIEF EXECUTIVE
23rd JULY 2019

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Background documents:

Bridgend County Borough Council Local Area Energy Strategy
Bridgend County Borough Council Smart Energy Plan,
Cabinet report dated 19 February 2019