



RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL

CLIMATE CHANGE CABINET STEERING GROUP

18TH DECEMBER 2019

**TAFFS WELL THERMAL SPRING – GENERATING CARBON FREE ENERGY
FOR THE COMMUNITY OF TAFFS WELL**

**REPORT OF THE DIRECTOR OF CORPORATE ESTATES IN DISCUSSION WITH
THE CABINET MEMBER FOR CORPORATE SERVICES**

Author(s): David Powell, Director of Corporate Estates and Steve Lock, Head of Energy Project Management.

1. PURPOSE OF THE REPORT

- 1.1 The purpose of the report is to provide supporting information for the Discussion Paper – Work Programme for the Climate Change Cabinet Steering Group meeting. The report outlines the current situation with regards to the Taffs Well Spring Renewable Energy Project.

2. RECOMMENDATIONS

It is recommended that the Steering Group:

- 2.1 To note the contents of this report as part of the ongoing work of the Climate Change Cabinet Steering Group and recommend a way forward for Cabinet.

3. REASONS FOR RECOMMENDATIONS

- 3.1 The contents of this report provides supporting information for the Discussion Paper – Work Programme for the Climate Change Cabinet Steering Group meeting presented at the first group meeting and provides an update on the specific area of the Taffs Well Thermal Spring Renewable Energy Project.

4. PROJECT BACKGROUND

- 4.1 The Taffs Well Thermal Spring emerges on the eastern bank of the River Taff in Taffs Well in the south east part of the borough of Rhondda Cynon Taf and is the only natural thermal spring in Wales. The current outlet for the thermal spring water is contained inside a brick-lined well within a Grade II Listed building constructed in the 1800s. The water runs constantly at 21°C and currently discharges through overflow pipes directly into the River Taff.

In terms of technical potential, the Taffs Well spring does not provide a great thermal reservoir at the surface, only being 10oC above normal ground water temperatures, therefore it cannot provide direct heating and a solution using a water source heat pump application is the only viable option.

- 4.2. In recent years there have been two previous feasibility studies led by the Friends of Taffs Well into developing the renewable energy potential of the Taffs Wells Spring in various ways. Then in 2017 the Council's Corporate Estates 'Energy' team assumed responsibility for the project and further work was carried out, including analysis of the technical and practical options for beneficially using the spring water and the viability of the different financial funding options.
- 4.3 This work was then summarised in an internal recommendation paper covering the various issues and options and approval to proceed on the technical and financial basis outlined below was subsequently agreed in early 2019.
- 4.3 In accordance with the content of the internal recommendation paper and the evaluation of the technical options it was agreed to proceed on the basis of providing a heat network to replace the existing heating system at two adjacent RCT Council buildings. For the Taffs Well Park Pavilion (which is currently used as a crèche facility but could have other project-related use in future) the intention is to replace the existing electric heating. For Fynnon Taf Primary School (now including the new school block that is planned) the plan is to replace or integrate with the existing gas fired system.
- 4.4 In accordance with the content of the internal recommendation paper and the evaluation of the financial options the intended plan is that the project will be funded by RCT Council as part of its wider commitments including carbon reduction. The current expected core project is expected to save 37.1 tonnes of CO2.
- 4.5 There is also future potential for developing a second phase of the project by expanding the use of the Spring water into a small but wider District heating network.

5. CURRENT PROJECT SITUATION

- 5.1 Following the approval to proceed to next stage of the project a formal tender process was carried out to appoint an external specialist consultancy to update certain information, and provide final feasibility, planning and procurement advice based on a water source heat pump system. As a result of this process Nuvision Energy Wales (Ltd.) of Cardiff were appointed and commenced work on the project in September. The first report from Nuvision on the feasibility of the project has very recently been received and whilst the details are still being considered there are some key points;
 - That there are no engineering reasons why the heat within the Taff Well Thermal Spring water cannot be used for a renewable energy project incorporating ground source heat pumps to supply both the Park Pavilion and Fynnon Taf Primary School.

- That there is more than sufficient heat within the Taffs Well Spring Water to meet the demands of the current project for the Park Pavilion and Ffynnon Taf Primary School.

6. PROJECT FORWARD PLAN AND TIMESCALES

- 6.1 A number of immediate next steps have been identified from the recent Nuvision interim report including some clarification issues with Western Power and Natural Resources Wales.
- 6.2 Following clarification of these immediate next steps a timescale for the necessary Planning application will be finalised in early 2020. In conjunction with this timescale a final technical specification for the Procurement of the construction phase of the project will also be finalised prior to the formal Procurement process which is envisaged to take place in Spring/Summer 2020. The necessary construction and related other works will then take place with an overall plan for the project to be fully completed by March 2021.

7. EQUALITY AND DIVERSITY IMPLICATIONS

- 7.1 An Equality Impact Assessment is not required with regard to this report.

8. CONSULTATION

- 8.1 There are no consultation requirements at present with regards to this supporting report. However, should the project proceed to the next phases of development, appropriate consultations will take place as part of the planning approval process.

9. FINANCIAL IMPLICATION(S)

- 9.1 The existing early feasibility work is funded through existing approved budgets.
- 9.2 There a number of cost variables that will affect the final cost but overall the cost is unlikely to exceed the expected range of £250k to £300k. However by structuring the financial elements to maximise the Renewable Heat Allowance payment the pay-back on investment could be reduced by several years.

10. LEGAL IMPLICATIONS

- 10.1 There are no legal implications aligned to this report.

11. LINKS TO THE CORPORATE AND NATIONAL PRIORITIES AND THE WELL-BEING OF FUTURE GENERATIONS ACT.

- 11.1 This report provides information in the area of the Taffs Well Spring Renewable Energy Project future actions as part of the ongoing work of the Climate Change Cabinet Steering Group which will take full regard to the seven national wellbeing goals.

12. CONCLUSION

- 12.1 This report provides information in the area of Taffs Well Thermal Spring Renewable Energy Project future actions as part of the ongoing work of the Climate Change Cabinet Steering Group.

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