



SUSTAINABLE OUTWOOD RENEWABLE ENERGY PROJECT BRIEFING NOTE

Purpose of this document:

Following a feasibility study into renewable heat for the village of Outwood in Surrey, it was shown that it costs more to supply heat to households from a heat network using renewable heat sources than with heating oil. Without reform of electricity prices or a replacement for the Renewable Heat Incentive, these schemes are financially unviable, leaving communities unable to switch to affordable low-carbon heat.

This briefing note is to raise awareness amongst policy makers and others to help remove barriers to achieving the UK's net zero targets.

Introduction

Outwood Parish Council formed a climate sub-committee, Sustainable Outwood, in October 2019 to tackle decarbonisation and other environmental initiatives in the community. The committee recognised that the largest contribution to their carbon footprint comes from heating their homes with fossil fuels.

A feasibility study was set up to assess the technical and financial aspects of a village-wide heat network, and also how a viable project could be operated and funded. We assessed multiple heat supply options for the network, including air-source heat pumps (ASHP), ground-source heat pumps (GSHP), biomass, and a "hybrid" of biomass and ASHP.

The project was designed to tackle some of the challenges to decarbonising rural communities, including the need for high temperature heat to replace oil-fired boilers.

Conclusions

The analysis showed that it was technically feasible to supply low-carbon heat from biomass, ASHP or GSHP combined with biomass if lease arrangement could be concluded with landowners.

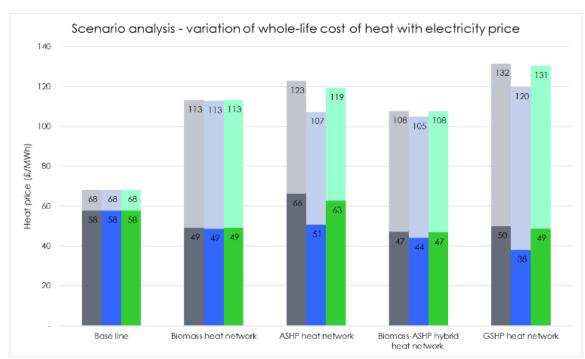
The main challenge to the project's viability is that in the absence of an incentive regime like the Renewable Heat Incentive, the operational costs of generating heat from these sources is more expensive than oil due to the high cost of electricity. Additionally, capital costs need to be taken into account.

We ran two scenarios to test sensitivity to electricity price (see graphic below). One scenario explored the impact of moving "policy costs" from electricity pricing to another part of taxation (blue, below – c. 24% of the cost of electricity), which brought the operating costs of ASHP below that of oil. This is a key area of policy that could make a renewable heat network in Outwood viable.

Without reform of electricity pricing or revenue funding for renewable heat projects, communities will be left behind, unable to decarbonise their heating systems cost-effectively.

The operational costs of biomass systems would be cheaper to run than oil and there is a good supply of local, sustainable wood fuels in the Surrey / Weald area. However fuel deliveries would still be required into the village and there are concerns about the carbon accounting approach for biomass. Securing planning permission for a biomass energy centre in Green Belt areas like East Surrey would also be challenging.

Given these factors the committee are not considering moving forward with biomass at the current time.



Scenario analysis: base case with day/night tariffs based on BEIS figures [grey]; with policy costs removed from electricity pricing (c. 24%) [blue]; cheaper power flat rate (12p/kWh) [green]

During the course of the project we heard from other communities undertaking similar work who are reaching the same conclusions. This briefing note is being shared with these communities so that groups across the country can work together to effectively raise this issue with policy makers and project sponsors.

About the project

The Parish Council applied for a grant from the Rural Community Energy Fund for the feasibility study and appointed Avieco to conduct the feasibility study. Avieco led a consortium to complete the study, working with Niras, a Danish engineering firm, and RPS, environmental & planning specialists.

For more details of the project and Sustainable Outwood's other work, see www.sustainableoutwood.org

The Rural Community Energy Fund (RCEF) is being delivered by the five Local Energy Hubs in England on behalf of the Department for Business, Energy & Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (Defra). It provides non-capital grant funding over two stages to help community organisations with the development of a renewable energy project.

The aims of the fund are to:

- Increase the level of community and locally owned renewable energy generation to support the Government's goal of achieving net-zero carbon emissions by 2050;
- Support rural communities by helping them to reduce energy costs or generate income from renewable energy and reinvest this income in the local area, and
- Promote rural growth through the creation of jobs and volunteering opportunities in the communities where projects are located.

The Fund will achieve its aims by removing the barriers to investment which are currently preventing the development of community scale projects. These include the up-front costs associated with providing evidence of technical feasibility, designing a scheme and gaining planning permission, the finance for which is not readily available in the commercial market. RCEF has been designed to provide that funding to community organisations to establish the feasibility of renewable energy projects and develop business plans.