

BARNINGHAM RENEWABLE ENERGY PROJECT

Provisional Scheme for Community Generation of Renewable Electricity

Responses to Comments & Queries - 16 February 2021

COMMENTS AND QUESTIONS	RESPONSE
<p>It seems that the project is very focused on solar energy as an option for the village.</p> <p>How was the conclusion about the non-suitability of sites for wind turbines reached?</p>	<p>Our feasibility study considered eleven potential locations to site renewables, of which four were considered possible locations for wind turbines and all were considered for solar PV. Some of the locations had been identified by us and some had been offered by landowners. The potential turbine locations were away from the main village and at locations where the visual impact would be minimised.</p> <p>There are no other electricity generation technologies at present that would be viable locally. Several people asked about hydro power from water run-off from the moor but the sources are not continuous or of sufficient volume to be suitable.</p> <p>After evaluation of generation potential for the turbine sites but prior to our village consultation in January, the landowners involved withdrew their consent for turbines.</p> <p>The only other site, the Bull Acre, owned by the parish, is not considered a suitable location as it is near a dip in the landscape so does not have sufficient generation potential. The visual impact at that location would probably be objected to as well.</p> <p>Consequently, we only have two sites available for solar PV remaining and this is the scheme that we are continuing to work on.</p>
<p>What would constitute a suitable site for wind turbines?</p>	<p>A suitable site would be on exposed high ground where there is frequent, sustained wind power. It would also be far enough away from residential properties to prevent noise nuisance, and entirely or largely shielded by topography or vegetation to minimise visual and light flicker impacts. Finally, proximity to a grid connection point is a consideration as it affects the cost.</p>
<p>PV sites can be unsightly, e.g., Thorpe Farm.</p>	<p>We acknowledge that some people dislike the sight of PV panels as much as others oppose wind turbines. The PV installations planned are both of very limited scale and limited visibility within the landscape, which we believe should make the scheme acceptable.</p> <p>All renewable technologies are evolving rapidly but at the moment are the only way we can contribute to decarbonising energy supply. They have a limited lifetime of 20-30 years, will cause no pollution during their use and leave no harm to the landscape once removed. By the time they reach the end of their working life, there should be much better solutions available. Unfortunately, the climate crisis means we can't wait to act.</p>
<p>How will the electricity generation scheme address the problem of fuel oil use?</p>	<p>It will not address fuel oil use directly. The current scheme will only generate renewable electricity equivalent to current local use and will not compensate for increasing demand which might occur from uptake of electrical heating solutions, as well as construction of a number of new houses in the village.</p> <p>Nevertheless, profits from the electricity generation scheme could be used to subsidise the costs of implementing more sustainable heating solutions, many of which are likely to involve increased use of electricity.</p>

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<p>Air source heat pumps are superior to solar power in terms of maximising energy efficiency (1 kW of energy produces 4 kW of heat). They also attract a very good return via Renewable Heat Incentive (RHI) payments.</p>	<p>Heat pumps (air source and ground source) are expected to be a widespread source of sustainable heating, particularly in new build houses. However, their operation would probably not be economical in many of the houses in the village, as the houses are quite old with poor energy efficiency (in spite of improvements that can practically be made).</p> <p>Although our project has mainly focussed on a renewable electricity scheme, one of the work packages was to evaluate options for sustainable heating and cooking to replace oil-fired systems. A report on this is imminent and we will be circulating an overview to residents soon. The conclusion for older, hard to heat houses is that there are some rapidly evolving alternatives that aren't quite viable yet but may be within the next few years.</p> <p>The Renewable Heat Incentive scheme is highlighted in one of our Energy Factsheets (No. 6) and provides an incentive to renewable heat generated by biomass boilers, solar water heating and heat pumps.</p>
<p>Wouldn't it be better to use your time lobbying planners to allow solar panels on dwellings and collective bargaining for good deals on solar and Air Source Heat Pumps (ASHP)? This would put money directly into the pockets of residents. Those with solar and ASHP could then enjoy free heating and power with net zero emissions and no disruption to local landscape.</p>	<p>There are more than twenty-five listed buildings in the village, which is also a conservation area. Historic England as well as many local residents would object to panels on historic buildings, even though there are opportunities to locate them in areas of limited visibility, e.g., the back of the Village Hall roof might be worthwhile. The widespread installation of rooftop solar is likely to be even less palatable than the small PV arrays we are proposing in landscape areas of limited visibility.</p> <p>The idea of collective bargaining for good deals on solar, ASHP and other energy measures is a good one and we will consider what is possible on that front.</p> <p>The renewable electricity scheme will also provide an income source to residents.</p>
<p>Response to previous comment and response:</p> <p><i>It would be better for everyone to switch to an energy company that guarantees supplies from renewable sources. If all residents switched to a renewable supplier our emissions would be nil from electricity at no cost.</i></p> <p>The cost of renewable energy tariffs has now dropped below that of conventional tariffs, as found in Google searches and uswitch. The 4 cheapest tariffs were offered by suppliers of renewable electricity.</p> <p>We should promote renewable tariffs to all local residents.</p>	<p>The reduction in the cost of renewable electricity is welcome, as there was a cost penalty from such suppliers in the past. Barningham Net Zero will investigate the current supply offerings and provide information on these in our next newsletter.</p> <p>Even if everyone switched to a renewable supplier locally, it does not mean that a community generation scheme wouldn't be worthwhile. The national context is that decarbonisation of the entire electricity supply system is needed to achieve net zero by 2050, as enshrined in legislation by the government. Community renewable energy is seen as an important contribution to the national mix of supply for a number of reasons. Existing infrastructure is not capable of supporting a centralised system approach to supplying future increases in electricity demand and the cost of upgrading would be colossal. That extra cost plus the significant losses that occur during transmission of electricity (in the order of 30%), mean that small-scale local supplies will be significantly more cost-effective and are considered essential by our Distribution Network Operator, Northern Powergrid.</p> <p>A final very important point is that the renewable electricity scheme puts profits into the local community. This money could be used to subsidise the costs of implementing more sustainable heating solutions, many of which are likely to involve increased use of electricity and could require substantial investment. All local residents will have the opportunity to contribute to decision making on how the profits are distributed.</p>

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<p>Will community residents be expected to contribute to the cost of building the scheme?</p>	<p>No.</p> <p>Options for funding the scheme are currently being evaluated by our consultant but none include a mandatory contribution.</p>
<p>How would the generation scheme be funded?</p>	<p>Our consultant is evaluating three options:</p> <ul style="list-style-type: none"> • A loan from a government source and/or ethical bank • Community share offer – an approach used by many other community energy projects in recent years • Partnering with an existing renewable electricity company <p>In recent years, the share option has been one of the most economical ways of raising capital. However, at present, loan interest rates are very low and it may prove a more cost-effective alternative.</p> <p>If partnering with a renewable supplier, they would take responsibility for building and operating the scheme and therefore take some of the profits. However, it may also be possible for them to offer electricity locally at a reduced (below market) rate.</p>
<p>I would like to see the share offer option for capital raising at the bottom of the list as shareholders are mainly interested in extracting profit.</p>	<p>The community share offers used for funding of community energy schemes are not the same as for normal businesses. They offer a lower return (but better than the bank) and share holders do not get voting rights. They are considered as benevolent investments. Such offers have been very successful in raising capital for community projects over the past few years, as many people wish to invest their money in something that is socially and environmentally beneficial.</p> <p>The share offer can be set up to allow preferential investment opportunities to local people first, followed by a wider national offer.</p> <p>A recent offer for rooftop solar in Edinburgh was oversubscribed, raising over £700,000 against a target of £660,000 with a projected return of 4.5% on a minimum investment of £100.</p>
<p>Site 1 - BULL ACRE</p>	
<p>There has only been limited grazing use of the field previously, the main use being to take hay off it. That won't be possible if PV panels are installed.</p>	<p>We are consulting with the current leaser of the land to gain a full understanding of the land use.</p> <p>It is noted that the lease is renewed annually and the asset belongs to the parish. The value of the hay crop and continuation of past practice may need to be weighed against the potential income generated by electricity generation, and the desire to take action on climate change.</p>