BARNINGHAM RENEWABLE ENERGY PROJECT

Provisional Scheme for Community Generation of Renewable Electricity

Responses to Comments & Queries - 7 February 2021

COMMENTS AND QUESTIONS	RESPONSE
Agree with the scheme as long as no wind turbines involved.	No suitable sites for wind turbines were made available to the project, so there is no current plan for any. We understand that a number of people in the village are opposed to the visual effects of turbines but did consider the possibility at several carefully selected locations as part of our study. As an area with good natural wind resources, it would be beneficial to include wind power in the community energy scheme as wind would produce electricity at night and in the winter when solar will be less effective or non-productive.
What does 400kW mean in terms that people can relate to?	The two sites are each being evaluated for generation of up to 400 kW of instantaneous power. It takes about 3 kW of electricity to boil a kettle on a 13 Amp plug and 7 kW for charging an electric car on a typical dedicated 32 Amp domestic charging point. If we can generate 800 kW from the two sites, the annual generation would be roughly equivalent to the current local electricity use.
Site 1 - BULL ACRE	
Solar panels would be an eye sore for everyone walking round Low Lane.	A professional landscape visual impact assessment will be undertaken if the project proceeds to a planning application. The assessment would have to conclude that the impact was acceptable for the project to proceed. At present, the field has been photographed from a number of perspectives around the village and local road network. Due to topography and screening by trees and hedgerow, the field is of limited visibility and is a very small component of the overall vista. We do not believe that the installation of a solar array will be detrimental to the enjoyment or safety of the local area. Subject to landowner agreement, we would also seek to enhance existing tree and hedgerow planting in the fields between Low Lane and the Bull Acre to provide further screening of the view.
There is the potential for glare impact to drivers coming out of the village.	
No assurance given that surrounding trees and hedgerows will be protected.	As stated in the consultation document, the planning application will include an assessment of existing trees and hedgerow for retention and protection. At present, the boundary plantings are in poor condition with a lot of gaps. We will propose enhancement of the boundary hedgerows by additional planting as part of the site development.
Water run-off will be increased and the existing flooding impact to the road will be made worse.	This needs to be addressed whether the scheme goes ahead or not. The detailed design in Stage 2 will include an evaluation of the drainage issues with incorporation of an appropriate solution to manage run-off and minimise flooding.

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Site 2 – SAW MILL	
How will the PV scheme be connected to the Coach House? A preferred method would be a buried cable that runs down the road with fibre broadband installed at the same time. THAT would be a community benefit.	The use of an underground low voltage cable laid along the road is also our preferred approach to eliminate additional visual intrusion. The actual method of connection requires further consultation and negotiation with Northern Powergrid. Should the scheme proceed to Stage 2 detailed design, Barningham Net Zero would be happy to evaluate the opportunity to install fibre broadband as a separately funded additional scheme component.
There would be no financial benefit to the village as they're not the landowner.	The entire premise of a community energy scheme is that it would provide financial benefit to the community. If this requirement is not met, the scheme will not be viable. The financial analysis is on-going. The cost of leasing the land from the Estate (or any other landowner) is not likely to jeopardise the financial viability.
Other Comments	
Grazing at the same stocking density could not be maintained. Grass growth in shade will be reduced and lack of fertilisers would reduce the capacity.	The Building Research Establishment *"Agricultural Good Practice Guidance for Solar Farms"* and the Solar Trade Association actively encourage multi-purpose land use through continued agricultural use or measures to enhance biodiversity. Sheep and free-range poultry have both been successfully employed to manage grassland in solar farms. These sources state that, typically, 95% of a field utilised for solar would still be accessible for vegetation growth, while the panels can also benefit grazing stock by providing protection in adverse or hot weather. The starting point for our procurement would be to state the requirement to maintain current stocking density. We will also consult further with the land users to ensure their needs are fully considered in the scheme development.
I'm opposed to local power generation as it is small scale and costly to build relative to larger scale generation, e.g. offshore wind or nuclear power.	The relative cost of building a small-scale scheme probably is higher. However, it is possible to build a small scheme that generates a profit, and in the case of a community energy scheme, the profit would go to the community. Large scale generation schemes are built to benefit shareholders, while nuclear power schemes are heavily subsidised with public money and result in a lasting legacy of hazardous radioactive waste.
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 (albeit the tariff may be different).	Those who can afford to, and who care about climate change, are already likely to be buying their electricity from a renewable source supplier. However, not everyone can afford the additional cost of doing so. A further imperative is the need to decarbonise our electricity supply system overall, an aim of the government enshrined in legislation. A community renewable energy scheme will make a contribution to meeting this vital goal.

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At a time when the country needs to pay its debts, why spend this money when switching suppliers could achieve the same outcome and by doing so encourage professional suppliers to build more renewable generation through private investment.	Significant losses occur during transmission of electricity, typically in the order of 30%. Large scale producers must generate a large excess of electricity to account for these losses. The electricity supply infrastructure also has to be sized to accommodate high levels of electricity transmission. Existing infrastructure is not capable of supporting a centralised system approach to supplying future increases in electricity demand. Community energy generation is seen by our Distribution Network Operator as an important contributor to flexibility of the future supply, where transmission distances are minimised and the need for major upgrades to existing infrastructure would be reduced. *"The power system is evolving from a traditional centralised energy system, where large power stations generated our power (transported through a national transmission network), to a more decentralised system that relies on small-scale local renewable generation. We believe that a more decentralised energy system offers the best outcome for our customers, where our role is to connect local buyers and sellers of energy, optimising low-carbon energy."* *Northern Powergrid, Building our plan for 2023-2028, Emerging Thinking August 2020*
3-phase outside the pub is not a community benefit unless it is distributed through the village.	The installation of a 3-phase connection would be needed to export electricity from the Saw Mill site and enable direct supply to Coghlans at the Coach House and the Milbank Arms. The potential to supply electricity directly to these large local business users would benefit the community in two ways. Firstly, it will improve the scheme profitability by enabling us to sell electricity at a higher price than we would get from simple export to the grid. Secondly, it will significantly reduce the demand through the existing network, resulting in a more reliable supply to households.
No assessment has been done of net carbon impact. A lot of concrete will be used for footings – in the Bull Acre due to wet ground and in the Saw Mill to hold panels down in the wind.	The net carbon impact will be assessed during Stage 2, as part of detailed design and for the planning application. There are various methods for supporting ground mounted PV panels. According to the Building Research Establishment, most PV modules are mounted on metal frames anchored by driven or screw piles, which cause minimal ground disturbance. The optimum method for each site will need to be determined in Stage 2, taking into account the ground conditions, weather considerations, type of panel (e.g. tilting panels to optimise production) and coincident grazing use considerations.