

Questions, Comments & Remarks - Hawkesbury Energy Day, Saturday, 27 February 2010

1. Will there be any damage to the playing field and what time of year would the work be done?

There needs to be an electricity cable from the wind turbine and about six trenches for pipes connected to the Ground Source Heat Pump. The Energy Group is well aware that the Rec has many users and will endeavour to schedule the work accordingly. The pipes need good contact with the ground to conduct heat, so trenches would have to be dug.

2. Could the electricity cable be laid without digging a trench (e.g. using a mole)?

It may be possible, as the electricity cable would not have to be buried deeply.

3. The wind turbine for Sainsburys at Emersons Green is smaller than expected.

The wind turbine at Emersons Green may appear smaller than expected as it does not provide electricity for the whole store. The one proposed for the Village Hall will be fitted to a 15 metre tower like the one at Emersons Green.

4. Could revenue from sale of electricity generated by the wind turbine cover the costs of this scheme that are not eligible for grants within four years without additional fund raising?

The forecast net income from sale of electricity to the national grid could be used to repay these costs, although the annual income will vary depending on how much electricity is generated. As the oil-fired central heating will be replaced, there will no longer be a bill for oil.

5. Could revenue from sale of electricity generated by the wind turbine pay for an extension to the Village Hall?

The forecasts depend on a lot of factors and we cannot commit future income at this stage.

6. How do the incentive schemes work and are they guaranteed?

The Feed-In Tariff rewards electricity generation and we understand that it will be guaranteed for twenty years. Payments should be index-linked, although details are not yet available.

7. Have you used the figures provided by Encraft, which have proved to be optimistic? If so, what tolerances are included?

We commissioned Encraft to produce a report and have based our forecasts upon it. They include factors such as an allowance for annual maintenance of the wind turbine.

8. The assumed twenty year lifetime for the wind turbine seems optimistic.

This is based on information supplied by Encraft and assumes about £8k of maintenance costs over twenty years. This sum is not included in the forecasts. We have identified sources of grant funding that could cover most of the capital costs and you could take the

view funds need not be earmarked to cover the cost of replacement as grants may be available when the time comes for replacement, or commercial lenders may be willing to lend money. It depends on your attitude to borrowing.

9. What will be done with any excess funds?

Prudence may dictate that some is put aside to cover the cost of maintenance and eventual replacement. However, the forecasts need to be firmed up and stress tested. It is not proposed to borrow money to fund this scheme, so any loss of revenue during a year would be unfortunate but would not put the Village Hall at risk (as could happen if there was a loan to repay).

10. Some larger renewable energy schemes have raised funds through a community share option scheme in which participants invest to buy shares in return for annual dividends based on the net income. Has this been considered?

It has been discussed by the Energy Group, although the ideal is to secure grant funding.

11. Will a limited liability company be formed with directors and trustees to assume the health & safety liabilities of the scheme?

We recognise liability issues but have not thought about setting up a company at this stage.

12. There are ongoing financial transactions that need to be audited.

The scheme will be administered through the Village Hall committee. A separate account would have to be created for income from this source. This is an addition to the income that the Village Hall already generates on a day-to-day basis.

13. What is the assumed utilisation factor and how sensitive are the forecasts to variations in it?

This assumption is documented in the report produced by Encraft, which can be downloaded from the website. However, it should be stressed that the primary aim of this scheme is to provide heat and power for the Village Hall from renewable sources. Surplus income is a helpful by-product.

14. How can Ground Source Heat Pumps be used for private housing?

Several houses in the village already use ground source heat pumps, although the capital costs are relatively expensive. A borehole can be used instead of trenches if the ground area is limited. The system works best with under-floor heating or low temperature boilers. It is possible that domestic installations may be eligible for renewable heat incentives.

15. What stage of the planning process has this scheme reached?

We are currently gauging the level of support and have applied for some grants that were due to expire; a planning application has not yet been submitted.

16. Why was this design of wind turbines chosen when there are likely to be eddies that will make this installation less efficient than a vertical axis wind turbine?

We relied upon the advice of Encraft as our consultants. Vertical axis wind turbines are less popular and may not be readily available on this scale.

17. What is the failure rate for this design of wind turbine, as one study showed comparatively high failure rates for domestic installations?

We have not seen specific failure rates or repair times for this design. Bearing in mind that it contains moving parts, assumptions have been made for annual preventative maintenance.

18. Have biomass heaters been considered?

Yes. The main drawback is storage and handling of the fuel. There is also a risk that as they become more popular, there will be fuel shortages and costs will rise.

19. How will the changeover to this scheme happen?

We intend to balance disruption on the Rec and inside the Village Hall. External work can continue at any convenient times until it is time to connect the wind turbine and Ground Source Heat Pump. It is likely that the Village Hall will need to be closed for a short period during the changeover. Radiators will need to be changed, the oil-fired boiler decommissioned, and the existing hot water tank will probably be moved upstairs to separate water heating from space heating.

20. Where will the wind turbine be situated?

It is proposed to put it at the northern end of the Rec, about halfway along the fence. (A temporary flagpole was used to mark the approximate location during the Hawkesbury Energy Day.)

21. Who will be able to see the wind turbine?

It will be visible from some parts of the High Street, the grounds of the Village Hall and Barley Ridge to the North.

22. Will this affect one of the best views to and from the village?

Whatever is decided will still need to obtain planning permission.

23. A public footpath runs along the fence at the northern end of the Rec. Does the wind turbine have to be a minimum distance away from it?

We will check if there is a requirement for minimum separation.

24. The proposed site for the wind turbine is close to adjoining land. More information is needed about how much noise it will make. Is it possible to visit a wind turbine?

The proposed wind turbine is the same design as one installed at Emersons Green. Figures have been provided for noise, although how noisy it feels can be very subjective.

25. Will the Village Hall have to purchase electricity from the National Grid when there is no wind?

Yes. Our forecast of a net surplus is based on estimated wind patterns for this area, although the actual pattern of wind speeds will vary from year to year.

26. What are the electricity costs?

The Village Hall currently spends about £3.5k per year on oil and electricity. The Ground Source Heat Pump will eliminate the oil costs and the wind turbine should offset the electricity costs, as we will be paid more to sell each unit of electricity to the National Grid than it costs to buy units when there is not enough wind.

27. Your forecast net income from the sale of electricity that is less than the annual income from Government incentives and tariffs.

The forecast is indicative and there are inherent uncertainties. The assumed Feed-In Tariff is guaranteed for twenty years; the price per unit is reasonably certain although the amount varies depending on how much electricity is generated each year. The provision for annual maintenance of the wind turbine is based on advice received from Encraft. The existing oil-fired boiler is nearing the end of its life and must be replaced. Oil price rises remain a risk if it is replaced with a new condensing boiler. An additional benefit is that the scheme should be carbon neutral.

28. Why was a wind turbine favoured?

One reason was to partially reduce the reliance on fossil fuels and make the Village Hall more sustainable. The wind turbine and Ground Source Heat Pump could be considered separately and would not proceed if there was strong opposition from the local community. Photovoltaic solar panels are expensive and would be inefficient as the roof of the Village Hall is not south-facing.

29. Will these grants still be available after the next General Election?

The deadlines for some grants have already closed. It is unlikely that currently available schemes will be withdrawn before their deadlines, although there may be changes afterwards. Grant funding, combined with local support & fund raising where necessary is the only way forward, as we do not wish to make the scheme dependent on large bank loans.

30. Will the wind turbine affect livestock or sheep (especially when lambing)?

The site that is currently proposed has been chosen so that it should not cause flicker from sunlight passing through the turbine blades. We have not seen any evidence of farm animals being affected. There is a wind turbine on farmland near Tippit's Inn that may offer a local source of advice & experience.