

A Microgrid for Ashton Hayes?

Technology Focus Group



Technical Ideas



- These are just ideas at the moment.
- We would like to get your comments and ask you some questions.
- At the end of the day we can make recommendations but the village makes the decisions.



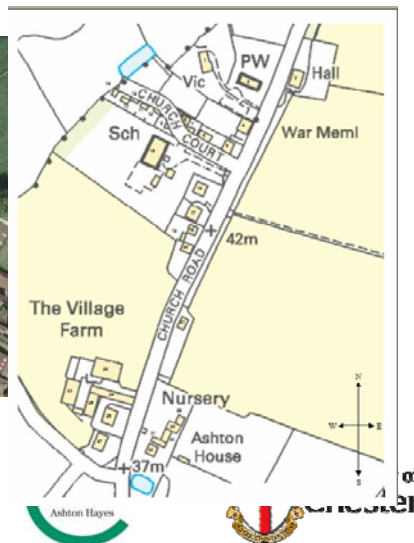
For another night...

Tonight, we won't focus on (but we haven't forgotten them).

- Metering technologies
- Grid connection
- Costs (easier to work out once we have firmer plans).
- The possibilities of bigger turbines at Longley Farm



CARBON CONNECTIONS



CARBON CONNECTIONS



Wind – near the school

- Possibility of 2-3 small wind turbines called 'Proven 15'.
- Each one has a maximum power of 15kW.
- The towers would be 25 metres.
- The blades would be 4.5 metres.
- Rather like 'lollipops'.
- They can be painted for 'camouflage'
- They are designed for low noise and low maintenance.



Noise

Noise level is between 48 and 65 dB(A) (at the turbine).
Closest building to site about 50 metres with trees in between.

Sound levels of common sounds in the environment include:

- office background noise is about 50 dB(A);
- human speech at 3m is about 60dB(A) to 70dB(A);
- cars driving by at 15m is 65-70 dB(A); lorries at 15m is 75-80 dB(A);
- and aircraft overflights directly overhead a mile from the runway is about 95 to 100 dB(A).



Birds

- Number of likely birds kills a year ~1.
- 10 million birds killed by cars each year.
- ???? birds killed by domestic cats.



www.enviko.com





www.res.ie/proven15kw



Picture from Proven energy



Solar energy

- Potentially good sites for photovoltaics (to make electricity) are the church, school, village hall, and a couple of domestic properties.
- Need to talk to owners.
- May not want to use all these buildings.



Hydro

- Investigating whether a small hydro turbine could be used on Ashton Brook.
- Still early days.
- It would only be 1-2kW but a fairly steady output.



Biomass/biofuel heating or combined heat and power

- Investigating options for using biomass or biofuel for heating or electricity and heat.
- Investigating the possibility of storing heat in the summer.
- Biomass could come from local forests or pellets (for example, made in Ruthin).



Biofuel

ESL Biofuels (a local firm) will only use genuinely sustainable feedstocks including:

- Animal or fish oils of known origin with traceable history. Used vegetable oils from food manufacturers, the catering or pharmaceutical industry.
- Virgin vegetable oils which have been rejected for human consumption by 'sell by date' or contamination.
- Non edible vegetable oils such as jatropha oil or algae-produced oils of known and sustainable origin.
- None of its raw materials have been linked with any adverse environmental or social impact.

<http://www.ebony-solutions.co.uk/>



Feedback

- We have a lot of work to do to get more details for these proposals.
- We need your feed back.



Questions

We want all your comments but here are a few questions to start off:

- For each technology: wind, solar, hydro and biomass/biofuel:
 - Do you have any concerns?
 - Would you like to visit one?
- Are there any technologies we have missed?

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