



All you need to know about the Ashton Hayes Microgrid feasibility study

By Professor Roy Alexander

Microgrid Feasibility Study

Q *What is a microgrid?*

A A microgrid enables small communities to take control of their energy use and reduce their carbon footprint through a new and innovative way of generating and managing electricity. Microgrids use renewable energy, generated locally on a small scale and connected to the main power distribution network.

Although microgrids exist elsewhere in the UK, they use private wires rather than the public electricity network and none are set in a rural community.

Q *What is this feasibility study all about?*

A The study aims to develop a model for the installation and operation of a rural microgrid on the existing power distribution network using Ashton Hayes as a test-bed. The study, which will last for 12 - 18 months, will assess a range of alternatives to conventional power generation, attempt to match potential power generation with demand and produce a model for a microgrid that could transform the way power is generated by any rural area in the UK.

Q *What is the specific benefit to Ashton Hayes of this study?*

A At the end of the study, the Parish Council will be given a model for a microgrid which is specifically tailored to our village. Whether this is developed into a real microgrid will be entirely up to the Parish Council in full consultation with village residents.

Q *How is the feasibility study funded?*

A Through a grant of £86,558 from Carbon Connections UK, an investment body based at the University of East Anglia.

Ref:

<http://www.carbon-connections.org/showContent.aspx?intContentID=7>

Q *Who is behind the microgrid project?*

A The project is a collaboration between the University of Chester which is expert in community carbon reduction programmes and social and environmental survey techniques; Capenhurst based EA Technology Ltd, which has technical expertise in power generation, supply and metering;

and Ashton Hayes Parish Council.

The project is managed by Roy Alexander, a village resident and RSK Professor of Environmental Sustainability at the University of Chester. Roy is also technical advisor to the Ashton Hayes Going Carbon Neutral Project.

Q So is the microgrid feasibility study part of the Going Carbon Neutral project?

A No, but it is closely linked. Ashton Hayes Parish Council was involved in developing the bid for the microgrid project from the beginning through its Going Carbon Neutral sub-committee.

Q When did the Parish Council formally agree to support the microgrid bid?

A At its meeting on 3rd December, 2007. Parish councillors then discussed and signed a *Memorandum of Understanding* (MOU) at their meeting on 7th April, 2008. The MOU set out the way in which the Council, the University of Chester and EA Technology Ltd would work together to ensure the feasibility study is as successful as possible.

Q Does the feasibility study involve the generation of power?

A No. There are no plans or funding to implement or install any renewable generation equipment in Ashton Hayes or elsewhere.

Q What renewable energy sources will be studied?

A For the feasibility study to be applicable elsewhere, it is important that as many sources of renewable energy as possible are considered. Planning permission has been granted to erect weather stations at two sites, one in Ashton Hayes (near the school) and one in Kelsall (at Longley Lane). Wind speed will be measured at each site for a period of 12 months. Solar energy will also be measured at the site near the school. The wind measuring devices (anemometers) will be mounted on 10m high masts.

In order to relate the wind energy measurements to potential power generation a range of wind turbines will be examined and those which would be most appropriate for Ashton Hayes will be recommended. The same process will be followed for other renewable energy sources. These will be no more than recommendations. Adoption of a microgrid will be a decision for village residents and the Parish Council and is beyond the scope of the study.

Q What have you done to keep villagers informed about the feasibility study?

A We have issued three information bulletins (in each case printing 400 copies) for distribution to households throughout the village, the first of which was in May 2008. Each bulletin has included contact details for those involved in the project and these details were given out at the public meeting (see below).

Copies of the bulletins are posted on the notice board at Village Farm and anyone requiring further information is welcome to contact members of the project team (see below for details).

Q *Some villagers say they did not receive a bulletin*

A We sincerely apologise if this is the case. We did our very best to ensure copies were distributed to all village households. We are absolutely committed to full consultation with residents as a crucial part of the feasibility study.

Q *Have you held any public meetings about the project?*

A Yes, all village residents were invited to an open public meeting in the village school on 16th July 2008. This meeting, which was attended by 26 people, was advertised by posters placed in several locations in the village and also by a mail drop to all village households.

Q *What was the outcome of the meeting?*

A We recruited volunteers, all of whom are village residents, for two focus groups to help guide the project team's thinking and to provide feedback as it develops proposals for a microgrid. One focus group is concerned with technological options for generation and metering and the other with the operation and management of an Energy Services Company which will be required to operate a microgrid should one go ahead.

Q *When and where do these focus groups meet?*

A The first meetings, advertised to every householder via a leaflet inviting attendance, were held on 2nd October in the Parish Rooms in West End.

Q *Does the project team have any input into the focus groups?*

A Yes. Members of the project team attend focus group meetings in order to present and discuss their ideas and listen to, and record, the views of focus group members.

Q *What information did the project team give the focus groups?*

A Copies of the information provided to the focus groups on 2nd October and notes of the discussion that took place will shortly be published on the Going Carbon Neutral website (www.goingcarbonneutral.co.uk) as will information from all future focus group meetings.

Q *Can I join a focus group now?*

A Absolutely. There is a standing invitation to all village residents to take part in a focus group. Just contact Roy Alexander on 01244 513171 or via r.alexander@chester.ac.uk

Q *Is the Parish Council kept informed of the work of the project team?*

A Yes, updates are regularly reported to Parish Council meetings to which all local residents are invited.

Q *How do I get more information about the feasibility study?*

A Again, please contact Roy as above.