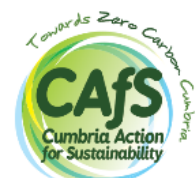# Lake District Low Carbon Energy Futures

'How To…'

A summary of the techniques and tools used throughout the project to assist others planning similar community projects

Contents

This document is part of a series of information about this project, including a guide to the process, 3D model used, and the resulting community Action Plans.
All documents can be downloaded from: *http://claspinfo.org/rural-low-carbon-futures*

Introduction to the Low Carbon Energy Futures Project

Many communities in the Lake District National Park have already expressed an interest in looking at renewable energy generation and energy efficiency measures within their communities, but many struggle to know how to take these ideas forward, often finding the enormity of the challenge overwhelming.

In order to attempt to overcome these barriers, a project was developed to provide assistance and guidance for a number of communities in the National Park.

The LDNPA have been successful in obtaining funding from CLASP to undertake this work between March 2014 and January 2015. They have employed Cumbria Action for Sustainability to deliver the project with them.

In summary, the project will provide three communities in the National Park with the assistance they need to help them take ownership of their own energy futures. It will provide the much needed structured advice and support to overcome the barriers that are stopping activity, enabling community groups to progress from initial ideas, and towards having a clear plan for action, including sourcing for funding to get projects on the ground.

Development of the 3D architectural model

Why a 3D architectural model?

A key element of the overall project idea was the development of a 3D architectural model. As stated in the introduction, many communities in the Lake District National Park have already expressed an interest in looking at renewable energy generation and energy efficiency measures within their communities, but many struggle to know how to take these ideas forward, often finding the enormity of the challenge overwhelming.

In order to help residents visualise we wanted to be able to show them what various renewable energy technologies could like in real life. This led to us designing and building a 3D architectural model, showing a typical Lake District Valley and renewable energy / energy efficiency opportunities.

The thought process employed?

We took a long time deciding what the model needed to show. We wanted it to depict a typical Lake District valley and community, but not to be recognisable as a 'real' location. We wanted to be realistic and accurate in terms of the relative scale of the building and technologies shown. We decided to include as many different types of renewable energy and energy efficiency technologies as possible on a model of this scale.

The model itself

The model has been built by Amalgam Modelmaking Ltd in Bristol and at a scale of 1:500. The base is 100cm x 80cm and is constructed from CNC machined MDF and light density model board which has then been art-worked and flocked to produce a realistic finish. The model cost around £4,500.

What the model shows

In order to make the model as useful as possible, for a wide range of different groups, we took time deciding what elements it needed to include. We tried to show as many elements of 'typical' Lake District villages, along with renewable energy and energy efficiency technologies. The following is a summary of all of the individual elements of the model:

- Housing - including council housing, 1960s bungalows, 21st century affordable housing and more historic and listed buildings.

- A group of modern eco-houses, with additional glazing on the southern side and featuring a reed-bed drainage system, solar photovoltaic (PV) panels and ground source heat pumps.

- The council houses and adjacent school building share a district heating system fuelled by a biomass boiler

- A farm with rainwater harvesting on one of the barn roofs and a small-scale Anaerobic Digestion (AD) plant

- A second farm or converted farm with a small 15m wind turbine of 5 or 6 kW

- A run-of-river hydroelectric scheme, with weir and turbine house

- Isolated housing with a ground-mounted solar PV array

- A hotel with biomass heating and water source heat pump, indicated by red pipes entering the lake (in reality, these would be underground)

- A caravan site with a green or sedum or living roof on one of the buildings

- A small set of buildings with industrial use

- Three 12m wind turbines serving an isolated dwelling with a total combined capacity of 15kw

Key points to note

Throughout the development of the model it became obvious that the devil was in the detail. In order to make the model as useful and realistic as possible, we undertook the following:

- We worked with the LDNPA planners and other specialists to ensure the model reflected a generic but realistic local setting.

- A number of the modelled technologies are based on real life examples. Whilst the model is not a real place, everything within it has been based on real examples, including the technologies. This is particularly beneficial when using the model with community groups in that all of the technologies are realistic possibilities, as they already exist in the locality.

- Another lesson we learnt was the need to be very specific about what a model needs to include and not to underestimate the time involved to get the layout right and realistic. Putting the time and thought into ensuring you get a model that accurately reflects what you want ensures you have positive discussions around real life options and possibilities, rather than negative discussions about how the model could have been improved.

Observations from users of the model so far

We have used the model with a number of community groups, both within and out with the Lake District National Park already. It is proving to be a very useful and popular tool. The following points summarise the feedback we have received and our own observations:

- It is a great tool to draw people into a discussion

- It helps to stimulate ideas of what could work in each local community

- People like seeing the detail

- People like knowing it is based on 'real' examples

- It is a good tool for taking negative comments and re-focusing the conversation on the positive

- It can be used with all ages

- Several comments have been received that despite the significant number of renewable technologies shown in a relatively small area, the area shown is still recognisable as a generic Lake District valley, with less change to the overall look of the valley than might have been expected. This helps show what options might be possible with good design.

Strategic selection of the communities to work with

<u>Methodology and lessons learnt</u>

<u>Methodology</u>

In order to identify potential community projects in the National Park and number of steps were undertaken. These involved:

- Seeking input from LDNPA staff with good local knowledge about projects in the pipeline
- Utilising knowledge from staff at Cumbria Action for Sustainability with good knowledge about projects in the pipeline.

Once the initial list had been drawn up, and series of criteria were chosen against which to assess each of the potential community projects.

These are as follows:

- Location
    - o We were keen to achieve a good spread of locations throughout the National Park
    - o NB due to match funding sourced for the project, one of the three chosen communities had to be located in the Eden District part of the National Park
- Type of technology
    - o We were keen to achieve a good variety of types of technology being considered, and to also take into account the results of the Lake District National Park Hydropower Scoping Study (second version that takes into account known environmental constraints)
    - o Type of community (for example, group of businesses, school, caravan sites, general community project)
- Existing community interest
    - o We were keen to work with communities who had already shown an interest in this area of work, so we could be sure we would make progress in the time available
- Scale of project
    - o We looked at each project and considered whether it was for an individual, a single community, a cluster of communities or on a valley scale
    - o We were keen to achieve a good variety of scales of area being considered
- Inclusion in Community, Parish, Neighbourhood or Valley Plan
    - o Significant work has been undertaken in producing these plans and getting community engagement in their production, therefore we were interested to see whether or not the projects were mentioned
- Achievable within time and resource of this funded project
    - o We were keen to be able to make significant progress with the projects chosen within the timescales and resource available for this particular project
    - o Ideas that came forward that were either too small or too big for this project can be pursued in other ways
- Replicability
    - o We are keen to support projects that could provide opportunities for replication elsewhere in the National Park, and beyond.

Whilst initially the plan was to score each criteria and total up the scores, in practice this did not work. We went back and considered the criteria in two phases. The first phase looked at existing community interest, scale of project, stage of progress (to get a feel for how far forward the ideas were), inclusion in Parish or other plans, inclusion in the LDNPA hydro potential study, timescales and replicability. This led to an initial score for each idea. The second stage of the scoring considered the location, technology type and type of community (whether or not it was an individual community, or a group of parishes for example). Once all of these criteria had been brought together then a final decision was made.

NB – once the final selection had been made, and contacts were renewed with the community groups, some of the assumptions about desire to progress their ideas and the timescales for this project meant changes were required. This has led to a number of changes in terms of the communities being supported during the life of the project.

Lessons learnt

- A significant number of potential projects were easily identified.
- Identifying the list of potential projects was a useful exercise. It has raised awareness of the amount of potential for similar projects and the need to seek funding and support for these. It also exists as a list for Partners to make use of if they have support on offer.
- Many of the ideas that came forward are excellent projects, and scored similarly. It was difficult to justify one above another and it is obvious that there is a need to find some ways of supporting these communities and individuals in taking their ideas forward.
- There are many reasons why community groups want to take action, and many of them change due to unforeseen circumstances. For example, if key contacts move on for whatever reason, then something that may have been highlighted as a high priority for any given community can easily be overtaken by another project / idea. This is almost impossible to plan for, but must be kept in mind and flexibility built in to any plans for work of this nature.

Final Selection of Three Projects

A number of iterations have taken place, with some of the communities initially selected, being unable to take part in the project for a variety of reasons. As the project has progressed, we have come to a final decision that the following three projects will receive support from this project:

1. Barton Parish Community energy project – including the potential for heating from a Water Source Heat Pump
2. Martindale Parish hydropower project
3. Staveley community hydropower project

Running the community workshops

In our experience, every workshop you run with a community group will be different, but we hope the following will give you a flavour of our experiences and the lessons we learnt, whilst delivering the workshops for this project.

Who to invite? / how big an event?

There is a balance to be found between involving as many people as possible, and making the events manageable and so the model can be of real use. All of the community groups we have worked with on this project had already undertaken some wider work in their areas to assess priorities (for example though community and parish plans), and energy had been identified as a topic that people wanted to explore further.

For this reason, we chose to run the workshop events for invited individuals. Whilst we didn't exclude anyone who was interested, we did speak to local community representatives to get an idea of the people to invite. We were keen to engage with the people who wanted to make something happen.

If the projects identified are to continue to move forward then they will all need a dedicated group of individuals driving them, and we were trying to get these groups of people together from the outset.

What will the workshop itself entail?

We made an assumption that we were starting from a very low level of knowledge about energy in the workshops. Whilst many of the individuals who attended were very well informed, we didn't want to make anyone feel like they were getting left behind, and so we started from scratch at the beginning of the events, explaining the basics about different types of renewable energy technologies and options for energy efficiency. This helps develop a session where all participants feel comfortable, and are therefore able to ask the questions they feel they need answering to progress their ideas, without concern that theu should already know the answer.

A series of slides were developed and put together as a presentation which was tweaked for each different community event. A copy of a generic set of slides, that can be modified for use with many other communities is now available on the CLASP website here http://claspinfo.org/resources/3d-rural-renewables-model-train-trainer-event

Once we had gone through the basics, then we started to get people talking more and thinking about options for their own communities. This is where we got everyone standing around the model discussing ideas. Moving away from a slightly more formal presentation, with the workshop facilitators talking to a set of slides, and to a more informal group discussion around the model gave

some people who hadn't spoken much the opportunity to ask further questions and make suggestions about what they thought would work in their own areas.

Following on from the discussions about potential ideas for projects, we then brought everyone back together to talk a bit more about the challenges community groups face, the opportunities that exist in terms of Government support, funding opportunities and finally local agencies who would be able to work with them in the future. We dwelt on the capacity available in each community to take forward energy projects, as we feel it's vitally important for people to realise what they are getting themselves into and how long some of these projects take to come to fruition.

The events ended with a clear plan of action for how to progress the project. In all instances this was an agreement to meet up again to drill down further into the ideas that came out of the initial workshops.

These follow up sessions have tended to focus on one technology, and have led to much more detailed discussions about what may be possible, who would need to be involved, what sources of funding would be available and suitable for each given project, and what the next steps are.

Notes were written up of the workshops and circulated to those present, copies of the slides used were made available, and the final output from this project is the development of a tailored action plan for each individual community.

Key stages and associated tasks, tips and lessons learnt

Having now read a commentary about what we did, here is a short summary of the key stages anyone running similar workshops needs to go through, the tasks that need to be carried out and some (hopefully) handy tips!

- **Stages and associated tasks**
  - Research and homework
    - Find out what the community have already been involved with in terms of energy projects
    - Find out if any commitments have been made in Parish, Community or Neighbourhood plans in relation to energy
    - Find out what else is happening in the area in terms of energy projects – for example landowners with schemes
    - Find out who are the key players in the community who need to be involved from the outset
    - Find out if there are any historical decisions about energy projects which may affect general support, or otherwise, for another energy project
    -
  - Preparation for the event / workshop
    - Find key community contact and agree arrangements for workshop / invitees
    - Book venue and arrange catering
    - Check what IT equipment required and agree who to bring what

- Check access and table measurements to ensure the model can be put in place in the chosen venue
- Agree list of invitees and publicise event if required
- Ensure organiser has means of contacting attendees in case of any unforeseen problems – for example, bad weather in the winter
  - o Running the workshop
    - Arrive in good time to ensure all equipment is set up
    - Try to ensure community building is warm!
    - Ensure refreshments are available
    - Start with introductions, and an opportunity for attendees to explain why they have come, what in particular they are interested in, and the level of their existing knowledge
    - Use a mix of means of communicating – some formal through presentations, and some less so via wider discussions
    - Make use of the model as a means of drawing people into discussions
    - Ensure everyone gets to have their say
    - Ensure a number of people are taking notes of the points raised. As facilitator, you may not be able to keep the workshop flowing and also take good detailed notes
  - o Follow up after the event / next steps
    - Write up notes of event and circulate
    - Write up action plans based on event and circulate to all participants
    - Ensure key community contact knows what ongoing support will be available, if any, additional to the contents of the actions plans
- **Tips and lessons learnt**
  - o Communication is key
  - o Get to know the community you are working with and do your homework as to what else is going on there, any other big issues they are dealing with
- Do your homework and find out what else is going on locally – for one workshop, we were able to invite a local landowner along who reported on plans for a hydro scheme in the area, and gave the community an update of progress to date with this.
- Involve the key players in the community.
- Consider your venue. For one event we ran, we were able to use a village hall that had a biomass boiler installed. This was a good discussion point and gave the options to view a renewable technology in use.
- Keep the workshops relatively succinct – we have tended to run events lasting a maximum of 1 ½ hours. Remember if you're bombarding people with a lot of information, often of a technical nature that they may have little or no knowledge of, there is only so much people can take in at one time.
- Revisit the previous events, and recap what we discussed at any follow up events to remind people what they talked about and to ensure anyone who wasn't able to attend is up to speed.

- Involve local technical experts if possible, as they can be an invaluable source of both experience of different technologies, but also linked into an intimate knowledge of the area in which they live.
- Always have good tea, coffee and cake – community buildings are often cold, and so a warm cuppa can do wonders for getting people in the mood for a discussion on a dark evening.

Producing action plans for future activity

One of the commitments of this project was to provide each community we worked with, with a bespoke action plan, clearly setting out for them the things they needed to do to take the project ideas forward.

This project was time limited, and we were very aware that the groups we worked with would still have a lot of work to do to progress their ideas further, come the end of the funded support available through this project.

In order to address these concerns, we came up with a general set of ideas of what each action plan should contain – but this was tweaked for each different community, to ensure they got the bespoke action plan they required, and not just a generic set of information, which they could have found with a bit of targeted web searching.

The following is a list of the key contents of each action plan we produced:

- Summary of the overall project and how it came about
- A section called the story so far – setting out what the community aspirations were, how they had decided to get involved in an energy project, details of the workshops held, and a summary of other relevant local information obtained, including links to other energy projects taking place in the area
- A set of actions for the next six or so months – the timescales and actions suggested were tailored to each individual community and their own current place in the development of their community energy project
- A section on support and funding available – this is critical so each community knows where to go to get further support and funding in the future.

The success of the action plans will be determined by the community groups who attempt to follow them in the coming months. We will monitor this to see if there are any further lessons to be learnt that can be shared as part of this project, and which we will feed into any future projects we run relating to community energy.

Produced by Cumbria Action for Sustainability, as part of the Lake District Low Carbon Energy Futures Project

December 2014

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