

Low Carbon Housing 21 February 2017

Community Energy Supply Company (CESCO)

HAB have been working hard in the hope of creating a Community Energy Services Company (or 'CESCo') that would provide the entire Lovedon Fields community with a 100% renewable electricity supply, using a microgrid and communal Tesla battery packs. Their aim was to harness this innovation to further improve the environmental performance of the development, in line with the HAB ethos, and to reduce carbon emissions from the Lovedon Fields community as a whole.

How would this work? The residents would own the CESCO, which would be a company limited by guarantee. The home-owner would own the PV on their own roof, and would be paid by the CESCO for sending the electricity from the PV to store in the CESCO batteries. They would have a power purchase agreement to buy electricity from the CESCO, or they could opt out and buy elsewhere. There would be back-up electricity from a connection to the grid, purchased from a green energy company. It is in principle also possible to use batteries to reduce the cost of electricity purchased from the grid, by buying at cheap times and storing to sell at peak times.

The Government and other regulatory bodies have gone on the record saying that they see decentralised energy, which this system would provide, as being a significant part of the future of the UK electricity infrastructure.

HAB was hopeful that with hard work and a seemingly favourable spirit from the industry, they would be able to deliver this exciting innovation at Lovedon Fields.

The latest news (20 March 2017) is that they have run into some regulatory and legal barriers that may not be able to be tackled swiftly enough to meet the programme for Lovedon Fields and to adequately protect residents, although they are fully confident could be overcome given sufficient time.

Notes from the question and answer session

- Will residents will need to be trained in how to use the housing to ensure energy efficiency is as good as intended? Especially when new people move in after a few years? There will be i-phone enabled smart controls. They are intended to have intuitive controls. Only the software will need to be updated; they will be part of the "internet of things" .The manual will be on-line.

- Why aren't HAB using heat pumps at Loveden Fields? Because they decide what's right for each scheme. We must stop burning anything.
- What water-saving measures will there be? Rainwater butts. HAB is not installing rainwater harvesting because it is a high carbon way of storing water.
- Why is housing on only part of the site? The Local Plan said that 29 homes were needed; the Council invited tenders for 30-50 homes on this site, chose HAB, and said they could build 50 and provide the park.
- Won't flat roofs leak? No, they have a fall.
- Costs? They don't know how the prices of housing at Loveden Fields compare, but they are selling well. A 3-bedroom costs £450,000 and 5-bedroom £897,000. Pre-sale helps with costs, because if housing is pre-sold, the developers carry less risk, so the cost of financing is lower, which means sale costs can be lower.
- How does the scheme keep stamp duty down? Purchasers buy the site and the first brick above ground ("the golden brick") and contract with the builder to buy the rest.
- Does the off-site timber-frame construction reduce costs? Although it could be cheaper to get houses constructed off-site, as yet HAB can't negotiate factory prices down because they don't have the scale; they need other developers to do it to get unit prices down.
- Does the off-site timber-frame construction help with energy efficiency? Yes – with the air-tightness test.
- Does the off-site timber-frame construction reduce the time needed for development? The timber-frame is quicker, but is only a small part of the process, maybe 2 of 18 months.
- What's the time-scale? Ends October 2017, with the park waiting 18 months for the grass to grow.
- Does the design allow for solar gain? Yes: all housing is modelled for gain and for heat loss, for example shading for west-facing windows; and the design permits retro-fitting louvres.
- Are the chimneys real? Yes, because people like hearths, HAB offered wood-burning stoves even though we must stop burning things for heat.
- How about the non-housing elements of the development? There's a service charge for things covered; the Parish Council pays for the things in the park, and gets funding from HAB for them; the street lighting will be LEDs; the Sustainable Urban Drainage to manage run-off of rain will be a series of swales down the main street, with some infiltration; the foul drainage is standard.
- What transport emission reduction measures have they considered?
 - electric car charging points using electricity from the CESCO
 - an electric car club, which will be open to neighbours too (this was the element that delivered the biggest energy reduction in the BedZED development); they're not expecting people to give up their first car, but hope they will give up their second.
 - bike storage
 - electric bikes
 - no bus stop
 - if it's a nice place, people will be less likely to want to drive elsewhere

Discussion on how to get the good ideas from the speakers replicated in other new housing developments in Winchester District.

- About 80% of the housing in use in 2050 has already been built, so we need to consider how to retrofit existing housing, not just new build.

Ideas to transfer to other developers (such as CALA Homes at Barton Farm):

- the importance of adopting new technologies
- maximise PV on roofs
- the idea of a community-owned energy supply company using renewable electricity (see note below).
- district heating is viable – demonstrated by this project
- the Car Club
- higher density – especially at Barton Farm

What can be done to get developers to adopt good practice?

- Show WCC planners what's possible
- Ask planners to disseminate good practice
- Ask planners to be stronger against developers? WCC planners cannot now impose higher standards through planning, but can apply the existing Building Regulations
- Set up a petition to ask the Government to reinstate the Code for Sustainable Homes
- Make sure that landowners (Inc. Winchester College and WCC) insist on higher standards by not selling the land entirely until the new development is built.
- Put pressure on larger developers
- Invite developers to Loveden Fields show homes
- Use consumer pressure for good aesthetics, beauty etc. to drive up standards
- Ask WCC to make WinACC a standard consultee about planning applications, in the same way as the City of Winchester Trust.

Chris Holloway
WinACC
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