



London Climate Action Week – Bioregional Webinar

BedZED and Beyond: Lessons for Reaching Net Zero

[Click here to watch the recording on YouTube.](#)

Audience questions:

From Nadya:

Are there any new technologies that are on the market now that weren't available when you built BedZED that you wish you could have integrated from the beginning?

Hi Nadya. Yes - the decarbonisation of the grid makes heat pumps all the more useful for providing heat and hot water. As Sue said, PV solar panels have improved in performance whilst getting ever cheaper.

From Max Kindred:

Is there a market and a process for reusing material from demolition/refurbishment like BedZED?

Hi Max. The demolition and salvage sector does have processes in place for salvaging the most valuable materials but so much more could be reused if the incentives were there. So no, the supply chains are not in place at all to do what was done at BedZED in terms of reuse of materials.

From John Hoadly:

Sutton helpfully took zero carbon value into account when evaluating best value. How much other 'value' would you have liked to be taken into account when making the financial / economic judgement?

Hi John. We produced a report at the time and of there are many other benefits that could also be valued, for example:

- Resident wellbeing from living in a strong and supportive community
- Carbon savings and air quality improvements from the green travel strategy
- BedZED pioneered an early permeable paving system (SUDS) that diverted rainwater runoff away from the sewage system and so helps with drainage infrastructure and flooding issues downstream
- Water efficiency measures meant residents use much less mains water than typical, which saves on water treatment and also alleviates water stress
- The roof gardens and community green areas offer wildlife habitat and corridors to help address the ecological emergency we face

Nowadays there are specialists who can attempt a financial assessment of all these.

From Ran Boydell:

RE: reused materials, there is the BAMB network: <https://www.bamb2020.eu/>

Thanks for sharing, Ran.

From Samuel Maddin:

What scope is there for post-occupancy / end-user changes to material/finishes e.g. flooring and how was this accounted for when calculating embodied carbon over 25, 50 and 100-year life cycle?

Hi Samuel. We did not model whole life embodied carbon, but there is plenty of flexibility in the design to allow for easy changes like these. For example, instead of embedding wiring and pipework in the wall, they are easily accessible in timber boxed sections so no re-plastering is necessary when upgrades are installed.

From Robin Roy:

I'm a member of Wolverton Community Energy involved in a project in Wolverton, Milton Keynes planning to install a solar PV and battery microgrid with grid backup in a development of 113 flats each with an air source heat pump and hot water tank <https://lovewolverton.co.uk/> We haven't found a control system to integrate the various parts of the system. Any suggestions?

Hi Robin. Thanks for coming. Lovely to see you there. I would not be able to recommend a particular control system but we'd love to speak more with you about this exciting project. We are looking to plan in a similar combination of technologies in two other locations.

From Sue Wheat:

Hi, Sue here from Ashden - we have a Cities programme and are so interested in the work you do.

<https://ashden.org/sustainable-towns-cities/>

Two LCAW webinars Ashden are doing that might be of interest btw to people here, hope it's OK to share: <https://ashden.org/events/empowering-local-government-to-be-climate-leaders/>

And Retrofitting, which is obviously the other side of BedZED's new build experience:

<https://ashden.org/events/4301-2/>

Hi Sue, thanks for sharing.

From Robin Roy:

BEDZED and Bicester Eco-town feature in two Open University design courses U116 and T317

Thanks Robin :)

From Roxy (she/her):

@Nicole Can you say more about investigating Hemp and Lime?

Hi Roxy, Greencore Construction are the experts at using these materials.

<https://www.greencoreconstruction.co.uk/what-we-do/>

From Madalena Cameira:

Do you already have some kind of sustainable storage (batteries) for surplus energy ? or do you have any circularity approach for the energy?

Hi Madalena. At BedZED, no. Excess electricity is sold to the grid at BedZED. Neighbourhood level battery storage to accompany PV arrays is a very promising solution though.

From Roxy (she/her):

Any advice for retrofitting listed buildings?

Hi Roxy, we'd recommend a great book - "Residential Retrofit" by expert architect Marion Baeli, available from RIBA publishing. And also Old Home Superhome network:

<http://www.superhomes.org.uk/>

From Roxy (she/her):

Resources for commercial rather than residential?

Hi Roxy. Certainly - the One Planet Living framework is equally applicable to the design and construction of commercial properties: <https://www.bioregional.com/one-planet-living>

From Chris Twinn:

Is it now time to do a BedZED design review - what really worked, what not so much, how to pull the costs down? For example, the principle of facing south was found to be less important. PV in glazing can overheat. Heat autonomy takes the ideas further so no district heating now needed....etc

Hi Chris. Yes, it's a great idea for a student project perhaps.

From Joanna Hewitson:

As a council, we struggle to enforce building regs which are of a higher standard than is enforced. how can this be overcome?

Hi Joanna. we agree this is a big issue. Building control teams have had their resources reduced a lot. UKGBC and others are calling for in-use performance standards and this would be a game-changer for addressing this issue.

From Bruce Garbutt:

With an airtight building, ventilation system and heat recovery, how do you prevent overheating in summer without invoking air conditioning?

In some cases, BedZED residents have suffered from overheating so it is an important question. Nicole says: "In my own flat, I always managed to stay cool, even during heatwaves, by having cool tiled flooring, by opening north-facing window and door during the day, opening everything at night, introducing shade on the south side during the day".

However, these techniques don't work for everyone, so the fundamental building fabric needs to do the work on this – the ideal is probably to reduce the glazing on the south façade somewhat.

Thanks again for joining us.

If you enjoyed the webinar, you can read more about our [One Planet Living framework here](#) and [sign up for our newsletter here](#).

If you're interested in a One Planet Living training session, please contact [Joe Pitts-Cunningham](#).

We hope to see you again soon.