

Episode 16

Finding The Balance Between Heritage and Sustainable Design

The show notes: www.houseplanninghelp.com/16

The Panel

Writer and Passivhaus consultant Adam Dadeby from Passivhaus Homes
Homeowner Ross Atkin (who has recently retrofitted his Victorian house)
Writer and blogger Roger Hunt

Ben: Today's subject is about heritage and sustainable design, and finding that balance. We're posing the question, what's more important – preserving heritage architecture or retrofitting it to high energy efficiency? We're going to concentrate on old houses. I'm saying that they are earlier than 1910, around the time the building technologies changed, but of course we'll talk about all sorts of buildings, no doubt. And I started by getting each of our panellists to introduce themselves and to find a bit more about them and their background. First up, Adam Dadeby.

Adam: Well, I'm a Passivhaus consultant and have been involved in some of the early certified Passivhaus projects here in the UK. I've also done postgraduate studies at the Centre for Alternative Technology. Before that I worked in different fields. I worked in IT, for the last 10 years before I became involved in the built environment. Recently I co-authored a book called The Passivhaus Handbook, which is published by Green Books.

Ben: And then we have Roger Hunt.

Roger: Hello, I'm the author of Old House Handbook and the soon to be published Old House Eco Handbook, both co-authored with Marianne Suhr and in association with the Society for the Protection of Ancient Buildings. We felt that Old House Eco Handbook was very apt at the moment to tackle the problem of retrofitting solid wall buildings.

Ben: And also Ross Atkin.

Ross: Hello. I guess I fit in the middle as being just a householder. I don't work in construction or green industries but I'm someone who's got

an interest in reducing my home's impact on the environment and for the last 6 years we've been working on our house to make it greener and leaner.

Ben: Well, that sounds good. Thank you for all those introductions. And let's start, Roger, with a quick question about historic fabric. How important is it? We're not talking about listed buildings but for other old buildings. Is it still important?

Roger: Yes, I think the historic fabric of any building is important. It gives it the character. It gives you the value and that's why many people buy an old house. That's why they fall in love with an old house, simply because of the oddities of it sometimes, the skew-whiff window or whatever but it is those details that make an old house special.

Ben: But does a house not develop through its lifetime, so if it does need some energy efficient measure, then that is also just part of its history?

Roger: Oh exactly. You can add in extras and actually our villages and townscapes have grown up because of the accretions that have been added to old buildings over many, many years. So, yes, you can add things but I think you have to do them with care and thought and not destroy what you already have in terms of value and character.

Ben: But you would prefer to go down that route of sticking with the lime-based technologies if you were going to deal with a very old house?

Roger: Well, it's not a question of wanting to, it's a question of having to. You cannot introduce cement-based materials into an old house without causing problems, which actually then make the building, you know, no longer sustainable. You are going to spend an awful lot of money trying to put those problems right later on and also you're going to use a lot of extra materials because you're going to have to rip things out and put new things back, the right things back. So, lime mortars, lime plasters and lime renders are vital to an old building to keep it healthy and to keep the occupants healthy.

Ben: Adam, I know that you live in a low energy building yourself. It's one that meets the Passivhaus standard. It's even a retrofit project, so it might be worth telling us a little bit about that. I know it wasn't a really old building but maybe just a few details about that.

Adam: Well, the original building was built in 1971 and its construction methods were very typical of that time. And I would agree completely with what Roger said about not mixing lime and cement. They are two totally different materials, different properties. I think if you've got a building that breathes, which lime-based buildings do, you need to stick with that in anything you add to it.

The building we had here was obviously not lime-based. It's an ode to concrete, the building I live in, but we added an extension to it as well as retrofitting and the extension was built using different technologies. So the appearance fits in with the original building, which is quite modernist. I live on an estate of modernist houses but the actual underlying fabric is quite different and is breathable. So you can mix, side by side, you just can't overlay one with the other.

Ben: So if we wanted to take an old building and bring it up to a low energy standard, what would we have to do?

Adam: Well, I think there is definitely a conflict when you're talking about a building before 1910, a historic building, because often the façade of the building is a strong part of the character, so you wouldn't want to externally insulate . . . I don't know, a famous old building, or even a beloved old building that has a special meaning to its owner. You have to think about some sort of internal insulation. Then, okay you're leaving the outside untouched, but the inside gets massively disrupted as well. So you have to really decide where the balance lies on a building-by-building basis.

From a purely energy point of view and from a moisture point of view it's much better to insulate on the outside of a wall and to wrap the existing building in insulation, effectively.

Ben: But how far will we need to go in the future? This is something that I'm still unclear of in my mind. I know that we can make old buildings energy efficient but will it be enough? Is our future, does it all have to be very low energy buildings, Adam?

Adam: Well, I don't think so. If you define old buildings . . . However you define this category, if it's a small enough percentage, let's say, it's 5% or maybe 10% of the housing stock and if you were able to reduce that 5% or 10%, the energy consumption, by say 50% then the remaining 90% or 95% you reduce by 80% or 90% as in Passivhaus then you're still going to be in the right place.

Of course, if you are choosing to live in an old house in an energy constrained future you have to be willing to live more like the inhabitants of the previous centuries. I.E. They lived at a colder temperature. You maybe retreat to a smaller portion of the house in winter and that's how you make it energy saving. If it's not appropriate or you and the state, the guys at the planners or conservation officers deem it not to be appropriate then the alternative is to not try and live a centrally heated life in that house.

Ben: That's very interesting because I suppose in a way old buildings are quite sustainable because if we do have any energy issues in the future, a lot of them were built with fireplaces and all ready to go.

Just moving on to Ross, you have a Victorian house, don't you? So coming to retrofitting this house or trying to make it energy efficient, was it an easy choice to make and what were those choices that you did make?

Ross: Well, I think we've touched upon the dilemma of an older house. When we bought a house we have a choice. We could buy a modern house, which would have very low bills or we could buy a character property that has all the inherent dampness, coldness, draughtiness that we all sort of associate with Victorian houses.

Now the house that we chose was an 1890s semi. It had unfortunately been the victim of some modernisation in the early 90s. When we bought it, it had had the early version of internal wall insulation where they're dry-lined with polystyrene. They'd also used cement mortars, so we had a lot of problems with damp. So as Roger touched upon, a lot of the things we had to do was actually correct the errors of the past and that was both in terms of the fabrics, sorting out the dampness that was caused by rendering in the wrong type of render, cement rather than lime, and also sorting out the issues around the moisture build up that they'd built into the walls through the dry-lining.

We're in a bit of an unusual situation where we're trying to put right what was done in the past and try and put back some of the features there. So it is a very careful thing because we're looking for a comfortable home. We're not looking for a Grand Designs show home. We're also not looking for a restoration piece. We want something that meets us and our modern lifestyle but also bearing in mind that house temperatures have gone from about 12 degrees up to 19-20 degrees on average since the 1970s so we do have to question about, as Adam said, can we live the modern lifestyles

that we can in older properties and I suspect no. There are compromises to be made.

Ben: Yup, that does make a lot of sense. At this point I thought it would be interesting to bring in a local example of where a 19th century house is being demolished. This is one that's actually owned by Tesco. It's called Ponsbourne Park and I know about it because it's near me, but it really did get me thinking because what's going in in its place is something that's much more sustainable, it's a lower energy building and at no point did they want to incorporate this old building into the scheme so it made me wonder whether actually, you've got to be careful because if these old buildings aren't energy efficient in the future will there be a case for knocking them down?

If we don't make the big savings now . . . I know that it involves quite serious retrofitting but Roger, could that be the case?

Roger: I think there is a danger of that because people are not going to want to buy buildings that aren't energy efficient, simply because they're not going to afford to heat them and so on with energy bills going up. Having said that, I think Adam was absolutely right in saying that we have to learn to live in a different way. Generally we have to learn to put another jumper on and so on.

But I think it is hugely important that we do retrofit old buildings and there is an awful lot that we can do to retrofit them that isn't going to cause damage that is going to destroy the character and value of the buildings. Draught proofing is something that is relatively easy to do and doesn't have a huge impact on the building. A certain level of insulation can be done without having a huge impact on the building.

Water efficiency measures and all those sort of things don't have a big impact on the building so we can live a much greener and more sustainable lifestyle without doing a lot to wreck the building. I think every building has to be looked at differently. No old building is the same. Even in a terrace you have two houses next to each other. One might be an end of terrace, one might be a mid terrace. You have to treat them differently.

It's hugely important that every house is understood and the measures that are going to work with that particular building and that particular house are done in a sensitive way.

Ben: Yeah, I think that I personally would love to take an old building up to a low energy standard. Adam, do you think for the people we

both know who have done this and have taken an old building up to Passivhaus standard, for example. Is that good what they have done? Is this something that says this is what you could do in the future? I know what we've said here has contradicted that a bit.

Adam: Well, the example I think of is Princedale Road in West London. That's a housing association, part of a Victorian terrace, mid terrace house and they have made that into a certified Passivhaus but what they have done is completely gutted the inside, re-arranged the levels, created four floors where there were previously three. They've effectively built a house within a house. I don't know that it's a good example. It's showing that it's possible it's not a model you want to emulate exactly.

It was Roger who was saying that you can reduce the air change rate by draught proofing. There's lots of invisible measures that you can do. I do think if you've got a genuinely historic building where the interior is also worth preserving and you've got solid walls, I don't really know how you can do that much other than insulating the loft.

Roger: Can I just talk about Princedale Road? I've been there as well and the point about that building was that it was pretty much gutted inside anyway. So, although it's an old building I actually don't see what they've done as wrong because there wasn't much to lose by doing it.

I'm not convinced that, you know, I'm a great fan of Passivhaus, but I'm not convinced that you can do Passivhaus in a house that has lots of features and so on without destroying the character.

Adam: No I think you're right. You're absolutely right. I would certainly, even though I'm, obviously having steeped myself in Passivhaus I'm very enthusiastic about it, I would not in any way say it's a universal panacea. There are certain buildings you just don't touch. You know, you would never touch them or you'd never try and touch them with a deep retrofit that Passivhaus represents. It's completely inappropriate but they are a small minority.

I suppose where we might divide, the three of us, perhaps, is that in the UK there is a bit of a conservation . . . I don't know. The balance between conservation and actually providing housing that works for people in terms of health and energy costs and the environment is maybe tipping too far towards conservation. The estate where I live on is quite a distinctive estate. It isn't in the conservation area but was treated in a semi conservation area way

by the planners during my planning application. There are lots of houses out there, in my part of the country, which are damp and cold and are just unhealthy and really expensive. People don't like that about their houses but they're locked into a certain way of living because they're living in a Devon country cottage or maybe in a poorly built 20th century house.

Ben: And what you're saying, Adam, is that there are no other alternatives in your area?

Adam: To?

Ben: To these types of buildings.

Adam: I don't know what you mean exactly. Sorry.

Ben: Well, you were saying that there are a lot of these damp, old houses. Is there an alternative? Is there something modern if they wanted that? Or would they have to take their own initiative and go out and build it?

Adam: There isn't really much available that's new. I mean, there are a few developer-led new projects in Devon. Generally the problem in Devon is that house prices are very high, land is hard to come by and so people take what they can with all of its problems. Some people do choose to live in period properties and they accept that they haven't got the same level of comfort and economy as a modern building gives them but there are other compensations. That's fine on an individual basis but I have a little bit of an issue with public policy to me feels so unbalanced towards preserving the status quo and not really giving something new that's more appropriate to our time now. Even when it comes to new builds but retrofits as well.

Ross: I was going to say, to add to that I think what we're really seeing is an economic divide whereby we have a lot of social housing is getting the investment now, so the very poor are now getting much better standard housing, even new housing or a lot of housing associations are now going for retrofit on a large scale because they have the economies of scale there.

On the other hand you have the more wealthy people who are in a position to self-fund these items and then in between what you've got is a lot of people who are not socially well off, they're not poor either who are stuck, possibly in rented accommodation where it's an owner landlord, buy to let type situation where in the current

economic situation now they're barely making enough to pay the rent and the mortgage, which means we have a whole slew of people who aren't choosing to stay in heritage accommodation, it's simply what is available and what they can afford and aren't the middle classes who choose to buy a lovely Edwardian villa that they can do a refit on.

They're the sort of people at the moment who really we need to communicate the simple things. I'm sure what Roger's mentioned about draught proofing and curtains and those sorts of things, but we're not helping. The Green Deal isn't assisting those people. I think this is where we're really going to start to see a problem with the older heritage stock that we have.

Roger: I think education is key to everything we're thinking about. I think education is what we're lacking in terms of telling people how they should or suggesting how people can make their homes better and more eco efficient. Even when they have an eco house they are very often not understanding how to live in it. Somehow we have to help people and explain.

There were some interesting comments that both Adam and Ross made there. Social housing is leading the way in eco retrofits. There's absolutely no doubt about that. They're the people that are experimenting and coming up with the ideas and solving the problems, so we can learn an awful lot from the social housing sector in how we do this.

The other thing is that, Adam, you were saying that so many people are living in damp houses and so on. I think actually there's a huge issue there that we need to address before we think about retrofitting, because houses shouldn't be damp and it seems to me that if there are damp houses it's very often because of mistakes that have been made in the past that have caused them to be damp. So maybe we should also be thinking about how we fix those problems because actually a damp house is a cold house, a wet wall is a cold wall. If we can stop houses being damp, we're actually going to create a much warmer and more environmentally friendly house in the first place.

Adam: Yes, I think that a lot of the dampness is caused by errors that were made in the original builds. Certainly down here. This is not historic housing that we're talking about, this is more 20th century.

Roger: Oh, okay. Yes.

Adam: I think with historic housing there are things that are probably failing after a while and have been patched up poorly in the past or haven't been addressed at all.

Ben: But you do see that as well that some of the Victorian housing stock, for example, it's just getting more and more run down and I wonder sometimes whether this is on purpose. I don't know whether anyone wants to pick up on that?

Adam: There's this little matter of 20% VAT on retrofits is a slight disadvantage! There are probably multiple reasons. It's much more complicated to do retrofitting than to knock it down and do a new build, especially if you've got limited skills. If the construction sector hasn't got all the skills it needs and if there hasn't been a national effort to skill up builders to retrofit and to do low energy properly the easiest solution is to knock it down and start again.

Roger: But I don't think it's just old houses, actually, I think it's right across the board with our housing stock. We have run down houses and I think there is a big issue with housing in this country that we need to address.

Ben: Well, I think that's quite a good point to round it off. I don't know whether anyone has any closing thoughts, but I've been slightly surprised that it almost feels together this discussion. We've managed to fit all the pieces in.

Is that what you feel, Roger? [Ben laughs]

Roger: I think there's a long way to go but yeah, I think we've raised some of the points and maybe the discussion needs continuing actually.

Ben: Adam, how about you? Any closing thoughts?

Adam: Well, just the VAT. I wish we had slightly more support from the state for retrofitting. If there was more of a level playing field between retrofitting and new build, and the planning system seems to be quite enthusiastic about retrofitting. Maybe they feel less threatened by it than new build but then you've got another part of government saying we're going to add 20% to your bill if you don't knock it down.

Ben: Yes, doesn't really help. And Ross, are you completed now on your Victorian eco house as you call it?

Ross: These things are never completed, sadly. As anyone who's got an older property will know. We're not at a point whereby we've reduced our energy usage by two thirds and we haven't done anything too radical. I mean, there's a couple of things like the heat recovery ventilation we put in that you wouldn't normally have in a typical house.

Just by doing sensible things and I think one of the key things that I know both, the two other guys touched upon was it's as much about lifestyle as it is about the buildings. I could have the world's most economical building and be a Passivhaus, but if I leave the heating on and the windows open and I don't draught proof and I leave all the lights on it will be as efficient as a coal heated 1820s cottage.

So we can talk about the fabric but also we have to change people's hearts and minds. And also when we talk about retrofit, I think everyone leaps on the grants bandwagon and let's put lots of eco bling on but really we should be creating decent homes for people and as part of that we need to be considering the environmental aspects and energy usage but also things should be clean, dry and healthy which I think is the primary thing.

Ben: Well, I'd like to thank you all very much and maybe we could just sign off, you could tell us where we can find out more information about, first of all, Adam.

Adam: About me or about Passivhaus?

Ben: Whatever you fancy. I know you've written The Passivhaus Handbook so where do we get our copy?

Adam: You can get a copy from the publisher Green Books. It's also available from online retailers. If you Google 'Passivhaus Handbook' spelt the German way, you'll find it. And if you Google 'Passivhaus Green Books' you'll definitely find it.

Ben: And Roger.

Roger: Yes, you can find out more about what I do at my website which is huntwriter.com and you can also buy the book through that website, well both books, Old House Handbook and Old House Eco Handbook, but I'd also say if you're looking for advice on old buildings it's worth getting in touch with the Society for the Protection of Ancient Buildings because they have a free advice line if you go on their website and search for 'free advice'. You can

get advice on everything from damp to eco measures and it's free. That is not just really old buildings but any solid wall building and you might find that useful.

Ben: And Ross, you even did a blog, didn't you?

Ross: Yes thevictorianeco.co.uk, a riveting read if you have a couple of hours but mainly to point out that that website is not intended at engineers, it's intended for normal people who own an older house and some of the simple things that you can do, some practical examples of what you should do and probably more examples of what you shouldn't do!

Ben: Well, thank you all for joining our discussion and we're going to leave it there.