

Episode 176

The Den case study with Dennis and Nicola Merrigan

The show notes: www.houseplanninghelp.com/176

Intro: In this episode I chat to self-builders Dennis and Nicola Merrigan about their Passivhaus project. Although they had their fair share of problems, Dennis considers them to have also been very lucky at key moments. I started by asking them whose idea it was to build a house.

Dennis: Mine. Definitely mine.

Ben: How did you set off on that?

Dennis: Well, I had a house in Dorset which I lost through a divorce. I always wanted a house in Dorset again, so I was looking for a plot for quite a time.

Ben: Nicky, you look like you want to say something. Don't bury your head in your hands. That's a great way to start an interview.

Nicky: It probably doesn't sound like the happiest beginning to a journey, but I think Dennis had always want to build his own home and he loved the county of Dorset.

Ben: You found this plot, I would say, in quite a rapid way. Or were you searching for a while and then it just came up and you got it?

Dennis: I was looking for a while, looked at a few things, didn't like them. This one came up really quickly. I literally saw it in the morning of the auction, went to the auction; Nicky was with me. We decided what we wanted to go to. We made one bid, went to what we wanted to go to and luckily enough, that was it. We got it.

So, it was a lucky journey, that bit. Very lucky, I think.

Ben: What were you looking for from the plot?

Dennis: We wanted to be in a village with some amenities – a pub, shop – we probably wanted to be nearer the coast but Ansty's proved to be

very good because you can get from Bridport to, I'd say, Poole in forty minutes, all of it.

So we don't feel we're far from the coast. We've even bought a boat now and we enjoy the coast quite a lot. That hasn't proved to be a handicap, although we thought it might be at the start.

We love the village and the plot was ideal in that it's right in the centre of the village.

I think people were put off because it's at the back of the pub carpark and the other side, there's a pig farm. But the pigs are rare breed and we've grown quite fond of them and the pub carpark gives you an interest and we can walk straight over to the pub.

Ben: Nicky, what were you after in this new house, even down to rooms and how you're going to live in it?

Nicky: In terms of what I was looking for in a house, it was mostly a light, simple space. I didn't have any set idea about how many rooms, I just want it to be a space filled with light.

Ben: It does seem, to some degree, that you were quite easy going with the house. This was going to become your home and in some respects, I know Den has all the knowledge, but you've just let him get on with it.

Nicky: Surprisingly, I think I have been quite easy going which is not something people know me for, particularly. But I think I was quite overwhelmed and daunted by how you go about building a house. It was so out of my comfort zone that I was very happy for Den to take the lead.

Obviously, he consulted me along the way about everything but I was very new to the building world and I knew that some decisions were just ones that Den needed to make on his own.

Ben: Let's say you did this again, which is probably unlikely because you've got a great house here, would you want to be more active or would you still do exactly the same?

Nicky: If we built another house – and I would say that will probably be with Den's next wife – I'm joking – if we did it again, I think in a way, the fact that I wasn't so informed perhaps was helpful for Dennis because sometimes, you need one person to take the lead. I think if two of you are really informed, perhaps it would've made more clashes.

So in a way, I think Den benefitted from me being a little bit overwhelmed by the actual building process.

Ben: I've seen it happen in various different ways and it's just down to each couple. There's no right or wrong at all, it's just interesting to hear that.

Dennis: Nicky actually did design the kitchen. That was her domain. She definitely wanted to have total input in the kitchen.

Nicky: I would say a little story about my ignorance at the beginning.

I had absolutely no idea what a passivhaus was. Never heard the word. So Dennis tried to describe it to me and he said the word eco-house. And the only time I'd ever seen an eco-house was on Grand Designs in the very early days, where normally there was some kind of self-composting toilet and a really sad looking woman putting sawdust down her toilet. And I didn't want that to be me.

So I was quite adamant to Dennis that I was happy for him to take the lead but I did need a flushing toilet.

Ben: Well, that's clear. How did you go about moving things on and deciding what size of house, what kind of house was going to go on this plot?

Dennis: Well, the size of house was constrained by the planning it already had. I wanted to tweak that to maybe get a bit more out of it but I knew I couldn't go mad.

The design of it, first of all, we just went for a local vernacular, red brick and stone, and the planners turned that down and said they wanted something more modern.

So as soon as they said that, I'd always had in the back of my mind that passive was the way to go, and also an architect that I had worked with previously had gone into passivhaus design, Paul Mallion of Conker Conservation. So I had somebody I knew I could work with and so I got him involved. We tweaked the design, decided on timber frame and basically went for it. Happy with his input.

We designed it between us, I would say, and kept Nicky in the loop and tweaked it as we went.

Ben: Nicky, you've said to me that you didn't enjoy looking at the plans. Were you able to feedback in any great way, or did you just go 'yeah, I think that'll be okay'?

Nicky: I was a bit fazed by looking at drawings and plans. I don't really visualise plans very well. So it wasn't until the timber frame was up and I could walk around the space, albeit no stairs, going up ladders, and the windows were in, that I really saw it and it just worked.

Ben: What constraints were you up against on this site? Obviously, planning might be one.

Dennis: We had a height restriction. That was the only thing on the second planning application. They wanted us to take the height down slightly. That wasn't a big issue and I think they were quite right actually. The house looks better for it.

We did have some drainage problems. The land used to get flooded from the hill behind, but our local neighbour came up with a way of overcoming that. We put a sump on his land and built a little drainage channel right through the property, under the decking, and now the problem has been solved.

Water goes through to the carpark whereas it used to be mud and all sorts going through. So we haven't had a problem since that was done.

But that's local knowledge and I think it just shows, if you can get on with your neighbours – and our neighbour was very helpful throughout the build – it makes a big difference.

Ben: I've been out and I've had a look at that sump, and it's actually not very big. To me, it seems to be a concrete square that then feeds in at a certain direction. So, did you know that that's the point where all the water came to and then it just started building up and up and up?

Dennis: Yeah, the ditches run to that sump and my neighbour has, when he's redone his ditches, made sure it runs to the sump.

Normally, it's only when you get a downpour that this is a problem. The sump will take the water ninety-five percent of the time, but if you get a flash rainstorm, the sump will overflow. But it just overflows now into the channel.

And because it is a sump, all the soil goes to the bottom of the sump so you're just getting water coming through now, where previously you had mud, all sorts coming through, and it used to cover the pub carpark and be a real problem. So we've got rid of a problem for the neighbour, the pub and ourselves. So, everybody's happy.

Ben: Is that something that you knew about when you first developed designs, or that when it starts to rain, you thought 'hold on a second'?

Dennis: No, that was when it starts to rain and you think 'oh, wow. This is a bit of a problem.' But then just chatting to people, as I say, the neighbour came up with the problem-solving idea.

Ben: How did you get that neighbour on-side? Because as the story goes, and I know we involve the neighbour quite a lot, but your neighbour seems to have been brilliant.

Dennis: He's just a nice guy and also, he thinks that your home is your castle and you can do what you want on it. So he will do what he wants on his and I will do what I want on mine.

But we get on very well. He puts the bins out when we're not here, we help him take care of his pigs when he goes away on holiday. It's become a very close relationship and we get on with them very well.

I think a lot of that is just pure luck, to be honest. I've heard horrible stories where people don't get on with their neighbours and it can be a real problem. But he was helpful throughout the build and he's been helpful ever since and hopefully we're helpful to him.

Ben: What period of time did the build go on and how is it, from your experience? Because I know you were away a lot as well, Nicky?

Nicky: Yes. I was working away and Dennis was to a large extent working in London. So a lot of it was project managed remotely, which I wouldn't recommend to anyone. I think being near to the site that you're building a property on is really important.

It had its difficulties, our build, and there were stops and starts. The biggest disappointment was that our timber frame company went into liquidation and we'd paid fifty percent up-front to have the timber frame to our specifications.

So that was a massive blow. The site had to be closed down, the contractors all had to go away and we were a significant amount of money down. So that meant later on, once we'd got another timber frame company and regrouped and got the builders back, we had a deficit of £20,000 at the end.

So, we had a lovely house that was pretty much finished and no money for a kitchen.

Ben: Which is your big input. It's jumping ahead but maybe you could tell me how you solved that one? Because that is a great kitchen you've got downstairs.

Nicky: We're very lucky now to have a lovely kitchen. We were looking at all sorts of budget options. And we were happy with that.

But Dennis, as a surveyor, he works as an independent surveyor with loss adjusters on fire and flood claims. And as if the gods of building take away and then give back, Dennis went to look at a very high end kitchen shop that had had a flood in the basement, but they had a kitchen upstairs for display which had kind of been written off by the loss adjusters.

Dennis phoned me rather excitedly and said 'Nicky, come to Islington. Come and see this kitchen because I think we can get it and I think we might be able to afford it.'

So I went to Islington, it was fantastic, better than I'd ever hoped for and now it's duly installed and we absolutely love it.

Ben: And recycling really, that's the other great thing about it. Something that's been written off, my goodness. It looks pretty good quality to me.

Dennis: Yes, we were very lucky with that. We had to redesign the kitchen because our design that we originally had didn't work. So we had to move a few electrical sockets and things. But the kitchen's fantastic and we're very happy with it.

It's not the kitchen we would've designed but I think it looks better than the one we would've got originally. So we're very pleased with that.

Ben: The timber frame company going bust, is there anything you can do to protect yourself against that?

Dennis: There is actually, and I use this at work now. Where I've got to put hefty deposits down now, I use my personal card. Because that gives me insurance.

A lot of people don't realise that your business Barclaycard does not give you the same insurance as an individual. So now, if I was paying for anything like that, I would put it through my personal account and then I would be insured.

It's a simple thing but you don't often think of it. So that's a learning curve but worthwhile.

Ben: How does this manifest itself on the site? Had you got underway with the timber frame or was this before anything happened?

Dennis: We were literally waiting. The timber frame should've arrived, say, on the Monday. Everybody was here, waiting for it to show up, and nothing happened.

We were ringing them and you think 'I don't like the sound of this on the phone.' You actually go down and see them. They were eighty miles away, driving down. The guy was quite honest and to be honest, I felt quite sorry for him. He was trying to save the company, he was in trouble and you knew that he was in trouble, which subsequently meant I was in trouble.

He was as helpful as he could be, actually. He did let us take some of the materials and he put us on to another timber frame company. So he did try to minimise the damage.

I'm in business and you know these things happen. So we just had to take it on the chin and make the best of it. But it was the timescale of everything, because we were physically there the day it should've arrived and then the blokes have got nothing to do.

Luckily, my builder was a friend of mine so, he rejigged things. But it still means that when you come to get going again, if he's rejigged things and he's working somewhere else, he can't just let them down. So it has a big knock-on effect. And obviously, your money's dead. You can't move anything on. You're paying interest and whatever. So it has a lot of repercussions.

The deposit on anything now, you need to be very, very careful about it.

Ben: When this was all going through, you were in London for quite a lot of the time and not able to get down to Dorset all the time. So just explain to me, the builder's a friend and that's great, but it's his first passivhaus I'm assuming as well. So, how did you project manage this?

Dennis: I didn't use the architect either. The architect only visited the site once. He has since come down when it's finished.

My builder's quite technical so, he can get his head around what's required. The architect was very helpful, that he would answer any phone calls. And so, the builder and the architect made many phone calls to go over details. And the builder just took it on and he could understand the premise behind it.

I've always said, in a normal house you've got airgaps the size of a football and in a passivhaus, you're trying to achieve a golf ball size. So every break you make in the envelope of the building has got to be sealed. You can't just run a pipe through, like you'd normally do. It's got to be sealed around it. So you've got to take great care in that. Around the windows and the doors, that's all got to be sealed. You can't just fill them with foam, as builders would normally do.

But as long as you get the guys on your side for that – and the great thing about Passivhaus, at the end of it, you get an air test which tells you how many air changes you've got per hour. In a normal house, six or seven would be good, but we're trying to get it down to below point six. We played a little game on site that if they got it first time, there'd be a little bonus. And they did get it first time.

But it also is a great way of testing that they've built it properly. If they don't get the air test right and there are loads of holes and gaps, you know that the quality of the build isn't very good. It's a bit late by then, but they know it as well. The builders know that. So I think the Passivhaus system is good like that. You can't really build it badly and get past that stage, because it will just show up.

Ben: Nicky, I'd like you to do something quite interesting here and just talk me through the entire build stage as you saw it. It doesn't have to be technical stuff but I still struggle with this sometimes and the only way that I get my head around it is by seeing it.

So, how would you describe from start to finish the stages that you saw? I'm aware that obviously, you weren't on site that much.

Nicky: The stages that I significantly observed, so there was the first day. I remember it. July 22nd 2012, where we came down. It was a beautiful summer's day and the first digger came to clear the site. They had some remnants – they had a post office on site many years ago – to clear all that. That was just a lovely day. You're so full of optimism and excitement.

And then the next significant one was where the foundations are in and they poured the concrete in. Is that right? Yes, they poured all the concrete in. That was exciting.

Then the next moment for me, because I think there were big gaps for me, was that the timber frame was up and it looked like a house. You could see that a house was beginning to evolve.

Then obviously, we'd got Siberian larch cladding, when that went on, then it looked even more like a house. And I love that Scandinavian look. It was a bit orange though, at the beginning, our

cladding. It stuck out in the rural environment and you're thinking 'oh goodness, is this nice?' And Dennis assured me that it would grey down, which it has and now it's lovely. So, when the cladding went up, that was significant.

Then, internally, as we've got – it's not plasterboard, is it Dennis? What have we got on the walls?

Dennis: Fermacell.

Nicky: Fermacell boarding. That was quite a stressful time when the Fermacell boarding went up.

Dennis had decided he wanted this particular board and the guys had never worked with it before. It's very different from plasterboard. So, that took a lot longer to get up than plasterboard would've done and the builders weren't wholly behind Dennis. Obviously, Dennis was the main man so, they went along with it, but that took a long time.

It was a very hot summer, I remember. So, it must've been 2013 when that was happening. And that was quite a difficult period again.

Then it moved on quite slowly then. And really, when the kitchen went in and it was finally a home. Those were the stages for me.

Ben: Interesting to see those points. Would you like to fill in any of the other details of some of the other things that were going on?

Dennis: Well, I suppose sorting the solar thermal out, the PV and the roof. I very much like the look of my roof. I've designed it so that the panels and whatever don't stand out.

Ben: How have you done that?

Dennis: Well, I built the panels into the roof and the panels are black. They've not got that silvery grain going through them. So, they melt into the roof. And the solar thermal, we've got Fakro roof lights and Fakro do panels that look like roof lights so, you don't really notice them either.

So, that was good. And we've got aluminium guttering which looks really nice. Those little details. It's the little details that when they're done, I think look really good.

Finishing a property is all about detail. Ours is very simple in that it's just timber floors upstairs, polished concrete floors downstairs.

There are no toys really. The ventilation system works really well and we're just very pleased with it.

I think you can make things too complicated and worry about heating.

We've got a log burner that works really well. We were told we wouldn't need one. We put one in for looks really but we do need it occasionally when we haven't been in the house for a while. That works really well and we're glad we put it in.

But our bills, that's what really chuffs me. You get a nice feeling when your bills come in, how low they are. Basically, you've got no bills because we get the money back on the PV. So, we've got a lovely, warm house and no bills. That's a really nice feeling.

Ben: Nicky, you have become a Passivhaus advocate really. How has that changed or when did it strike you?

Nicky: I became more involved as the build progressed and my work commitments elsewhere decreased, and I started to work more with Dennis. I just loved the whole story of Passivhaus.

I learnt about Dr Wolfgang Feist and how he developed the Passivhaus standard and I became really interested. I started to look on Twitter and see other self-builders. It just really captured my interest. I like the narrative of the Passivhaus story. I love stories.

So, even though it's something I'd never heard of before, I just thought it was really interesting and I wanted to learn more.

Ben: What's been the biggest challenge on this project, if we haven't mentioned it already?

Dennis: I think it really was the timber frame. That was a real fly in the ointment if you like. Just getting around that is good. I think once you do get around things and overcome problems, then other problems that come up are very minor and you sort of get hardened to it.

If I was doing another one again, I don't think I'd be fazed by anything really. I do take my own advice and pay everything on the cards. It toughens you up.

Have a contingency. That's the only thing. Don't be running always up against trying to get money and worrying about money. Money can be a big worry if you're not used to these things and I think for

people who are not used to building, to go in without the project fully resourced is a nightmare.

Ben: How do you stick to your budget?

Dennis: Well, it's hard to put a budget up initially anyway. Even my friend who is builder wouldn't do it on a price because he said 'I've never done Passivhaus. I don't know what it involves.' So, we came to an agreement. I was basically paying the labour day-to-day and hoping for the best. But that makes it difficult to manage a budget.

Suppliers, the big things like windows and that, I knew those prices. For instance, as Nicky said, the Fermacell took a lot longer to put up. It's very heavy. It took a lot longer than plasterboard would have. And that costs a lot more.

So, even though I'm dealing with it all the time, you do make mistakes. I know we couldn't pay for the kitchen at the end but basically, we did have enough resources to finish the project. And we managed the kitchen. We just had to wait a little time.

But to be under-resourced is a nightmare. It really is, I think. So, make sure of your budget and make sure that you've got a little bit left back because things will happen and some costs will be more than you think.

Ben: And landscaping is something that you were particularly keen on. I know it probably continues, developing the garden. So, what have you done so far, Nicky?

Nicky: Well, what I realised was that we hadn't budgeted for the garden. And the cost of landscaping a garden, a piece of land which once the builders have gone and you've got your lovely house, is just rubble and mud and discarded things, it was quite a large piece of garden to budget for, and we hadn't.

We got some local landscapers in to budget and the quotes were so high. It was quite frightening really. So, I would say always think about not just the house but the surrounding area that you've got. Whatever size it is, you'll need to budget for that. Because a digger had to come in, there was landscaping, we used some sleepers. We kept it very simple.

Again, the hero of the story is our lovely neighbour who said that he'd do it for us, because he had a digger. He did it as and when and it's come together really nicely. But it's frightening how much plants cost.

Ben: You've been in the house a good time now, you've had lots of visitors. So, what's it like to live in, what's it like when people come around?

Nicky: Obviously, because we've built it ourselves, we're really, really proud of the finished product.

It was really joyful when our grown-up children came for the first time to see it finished. They hadn't come during the build and we preferred it that way. Den really wanted them to come when it was finished. And seeing their faces – obviously, they'd seen photographs along the way, but when they came, we felt quite chuffed with ourselves.

And I think they were really proud of us for doing it. They were really proud and quite impressed that we'd built the house. And they just think it's a lovely space to stay in.

Ben: Finally, Den, what advice would you have for people wanting to build their own home?

Dennis: Obviously, the stages really are getting your land. That's probably the hardest bit. That's the bit we were luckiest in, I think. But getting the land is really hard. I know people have been looking for ages.

Once you've got your land, you need a good architect and you need an architect that you get on with. Then you've got your design which you can do between you.

Then you've got to get your money in place. I don't know if I mentioned, we used the Ecological Building Society who were very helpful, very good all the way through the build. Couldn't fault them.

Then getting it done is difficult and you've got to think of the form of contract that you're going to do, whether you're going to get somebody to do the whole thing or you're going to part-manage it yourself, or whatever, like we did.

And then, also especially with a passivhaus, get all the detail done before you start because you can't change things easily. Not on the envelope of the building. And even the structure inside, that can't be changed. You can't suddenly decide 'I want to move ...' – you've got the ventilation going through as well. So, you've got to get everything detailed before you start and then away you go.

Then you've got the problem with the build. And everybody will have different problems with the build itself. But they're to overcome.

It is a very nice feeling at the end of it. You forget all the problems all the way through. You do forget it. It just becomes like any other problems you've had in your life. But you're in the house the whole time and you benefit from it and you're very pleased with yourself in a funny sort of way.

So, it's worth doing. I'd recommend it, but you need to know what you're taking on.

Ben: Thank you for sharing your story and for letting me stay. Den and Nicky, thank you.

Nicky: Thank you very much, Ben.

Dennis: A pleasure, Ben.