

## Episode 301

# Energy | People | Buildings – with Hattie Hartman

The show notes: [www.houseplanninghelp.com/301](http://www.houseplanninghelp.com/301)

**Ben** 00:00

This is House Planning Help Episode 301. Hi there, I'm Ben Adam-Smith and this is the podcast for you if you're interested in self-build or retrofit. I'm exploring what houses we should be building in the 21st century and trying to break down the major roadblocks that may get in our way.

Coming up in this session, my guest is Hattie Hartman, Sustainability Editor at the Architects Journal. And we're going to be exploring some of the themes that come out of her new book, Energy, People, Buildings, which is a collaboration with Judit Kimpian and Sofie Pelsmakers. Sofie has been on the podcast before and I often think this when I look back, Oh, that must have been a couple of weeks ago, a couple of months ago, it's now six years ago, my goodness! But we'll link that into today's show notes as well, because it was a really good episode around another book that she's been involved with for many years, the Environmental Design Pocket Book, so we were exploring a few myths in that particular episode.

So from here on in, it's all about Energy, People, Buildings. And there's no doubt that this book is aimed at construction professionals. Not all the case studies are housing, but the themes, they're exactly the same. All the things that you would want your building professionals in particular to know. And this can be one of the hardest things if you end up hiring the wrong people and trying to persuade them towards your green agenda. It's like trying to roll that rock up to the top of the hill. So that's a decision you definitely need to try and make carefully and to get the right team together. So this is good grounding today.

I've bumped into Hattie at various conferences and events over the years, be it AECB or ASBP, but what's been fun recently is with the launch of her Climate Champions podcast, just getting to know her better. So we'll definitely talk about the podcast. Also, the Architects Journal is a big, important publication in the world of architecture. So we'll talk about that. But my first question really was how this all began. How did she become interested in architecture.

**Hattie** 02:04

I actually had a very unorthodox path into studying architecture. I wasn't the type of person who when I was eight years old, was madly drawing

buildings and knowing I would study architecture. I went to university, wanting to change the world, because I was in secondary school in the late 60s. And in America, Vietnam war, feminism, these were all huge issues. And the way to change the world was to work in politics, to work in political campaigns. I spent six months on the primary trail for an unsuccessful Democratic presidential candidate, George McGovern.

And from there, I went on to university thinking I wanted to study law and be a lawyer. In my first year in an American liberal arts program, I had a course of constitutional law. And I chose semi blindly an art history course on Italian Renaissance art. And what I found was that the cases of constitutional law books piled up on my desk unopened, and I became absolutely fascinated with the Florentine, Venetian and Roman Renaissance.

And at the end of that term, the tutor said to me, did you ever think of studying art history as your concentration? And I said, Well, I don't want to be an academic and I don't want to work in a museum. So, no.

And then I actually took a course in Renaissance architectural history from one absolutely inspirational teacher, James Ackerman, who has written books on Palladio and Michelangelo, and that was my way in. And I had a tutor in my third year of university, who was English, William Curtis, he's a specialist on Le Corbusier, and that was a life changing moment for me. He took us out to see all sorts of buildings all around the Boston area, and that's how I got turned on to architecture.

**Ben** 04:03

What does good architecture mean to you? You've mentioned some of those early influences. But it just broadens out. So is it what does it mean? Or has it changed?

**Hattie** 04:16

That's such a fascinating question, because my daughter, who has been dragged around to see many, many, many buildings in her 24 years, she always says to me, but you never like any buildings, you know? Why didn't you become an architect and design your own buildings?

It's such a challenging thing to design a really good building. And now with climate emergency, you know, when I was studying architecture in the early 80s, an understanding of climate was absolutely essential: that was off the back of the 1970s oil crisis and orientation. The basics of climate responsive design were embedded in my design studios, that was just part of it.

And I studied architecture at MIT, because at the time, Harvard was absolutely full of postmodernists, and I wanted a more community orientated social focus. And I ended up doing a planning degree at the same time. So all of those issues, I mean, architecture is about people fundamentally. And that's why doing this book with Judit and Sofie was so

interesting, because, and that's why our book is called Energy, People, Buildings, because it's not just about measuring the energy use of buildings, it's about using this tool of understanding how buildings really work, to make buildings that are comfortable, and good for people.

**Ben** 05:47

Would you say that we have changed? We're talking about architecture, obviously, life is constantly changing around us, but have our needs changed, along with the climate emergency?

**Hattie** 06:02

Well, I think that's part of the problem is, you know, we've gotten used to a world with endless resources where you could have big expanses of glazing, your own private car, all these things. And I think we can live more modestly. We're gonna have to live more modestly. But it's very hard habits to break.

**Ben** 06:26

Yet needs, perhaps I was thinking, as I said that maybe that's the wrong word. But sort of what can we survive with now? And I think that sufficiency is it's such a good word. Hopefully, it's not too much on the end of, you know, being stingy in there. But do you think that that's a better way to think these days?

**Hattie** 06:44

Well, this is part of the problem, because I think sustainable architecture has always had a bad name, because it felt like doing with less, and one practice that has been very successful at combating that idea, and I don't endorse all of everything they do, but it's the big and in Copenhagen, you know, they talk about hedonistic sustainability. And it doesn't have to be depriving oneself, it's just doing things differently. And I think there is an element of understanding what needs to be done and doing things differently in a more lean way, and still be absolutely beautiful and wonderful places to live, or work or whatever other building type we're talking about.

**Ben** 07:37

So tell us about the book then, when was this a concept? And was it more one that was created through collaboration?

**Hattie** 07:45

This is really Judit's book. She's the expert, and she came to me I think it was six years ago, maybe even seven, to say that she wanted to do this book and would I help her with it. And I said, having done a book on the Olympics, and knowing full well what an all-consuming project a book can be, that my daughter's last year of secondary school wasn't the year I wanted to be wrapped up in a book. So I could do it but I'd start a year later. So we did that. And we embarked on it. My role was really to do the case studies and help with the overall editing.

**Hattie** 08:28

And I can't ever recall at what point along the way Judit had the incredible brain wave to invite Sofie Pelsmakers to collaborate with us. We weren't very far along. And Sofie's enthusiasm, knowledge and razor sharp thinking have just been invaluable in this whole process. So then it became a three way project. But many aspects of life intervened. And so it's had a very lengthy gestation. And really, the concentration that allowed by lockdown enabled us to pull it all together because we had a draft in early April, I think, but we really, we had fantastic peer review. RIBA Publishing, we had over 20 peer reviews, which were incredibly helpful. And we basically rewrote the book between the three of us in that period.

**Ben** 09:25

So who is it aimed at?

**Hattie** 09:28

This book is aimed at design professionals and students, also, people who operate buildings, but it's really you know, coming from RIBA Publishing, it's for architects and engineers and students. And I was just looking today at the table of contents and the table of contents sets out very clearly these 10 chapters. But to get to those 10 chapters was an unbelievable struggle. I mean, we reshaped this book a number of times. And it now is very clear to me why it is the way it is. But it wasn't obvious to us at the beginning.

**Ben** 10:08

What I like is that a lot of the messages I feel I'm always talking about seem to come up. And certainly in the introductions as well, even if you were just skimming through, you would get those same lessons. So if I put you on the spot, what were you trying to do?

**Hattie** 10:28

Well, this book is really about feedback, because Judit was involved in a lot of the Innovate UK building performance studies several years ago. And at AHR, she was involved in very detailed studies of five buildings. So she knows everything that can go wrong, and does go wrong in the way buildings operate.

**Hattie** 10:56

The thing about feedback is, it's not something you do at the end of a project, you go back and check whether things are working, it's something that you have to build in to the whole process from the beginning. And this is what I learned so much by doing this book that when you do that, when you keep track of all the things that are going to impact a building's performance from the beginning, and you have buy in, not only from the whole design team and the client, but from the contractor, and the real critical point is you write that into the procurement. You can actually track these things and make sure that buildings perform and you can

troubleshoot, and you can find problems and solve them quickly, before they become huge, expensive things to sort out or lawsuits.

**Ben** 11:43

Does this cost money going by this way?

**Hattie** 11:46

And this is the thing, when you do it at the end, you decide you're going to come back and do it, you have to go back and track where were those energy bills. And, you know, where are the as built drawings, and where is this and where is that, and used to waste an inordinate amount of time putting all the pieces together. But when this is planned for from the outset, it's such a minute cost in relation to the overall cost of a building. And when the collating for example of the energy data is part of the contractors responsibility, then the right meters are put in place. And if the meters aren't working, it's sorted out immediately. Whereas often you go back and you have the wrong meters, they weren't properly commissioned, you can't get the right data, and it becomes a whole nightmare. So if it's planned for from the outset, cost is not a barrier.

**Ben** 12:43

Now, if you think of people who are operating in this way, do they just get better and better?

**Hattie** 12:50

Absolutely. And in the book, one of the things I spell out in a couple of places is my interviews with Architype, the practice based in Hereford with the London office, and they have over really, a decade, and I don't think it has to take a decade, I'd say really three to five years, they have perfected this process in house. But they actually hired someone for a year to develop work processes, you know, how do you use a thermal camera, how do you do this, how do you do that. And they have all that in their system and they have several people in the practice who have done it. So when they need to do it on a new building, they have the expertise there in-house.

They also set up a research project, I think it was with Oxford Brookes to do a certain number of their buildings. So by doing it, you get better and better and better.

And other practices have hired a PhD student to do this. There are many ways of getting that expertise going. There are also levels of this that you can do. A lot of it is also going back and talking to people and talking to people all the way through the design and construction process.

One of the more remarkable stories is the Everyman Theatre in Liverpool, which is one of the case studies. And there they have a very proactive facilities manager who was actually part of the design team from the outset. And he's the one who has been checking that everything is working, downloading all the data from the BMS system. And he says that

the complexity of the interface with the BMS system is one of the barriers in this whole process, and Judit is very clear about that in the book, there's a whole chapter. I never knew so much about BMS systems. It's very nerdy stuff, but it actually is essential to get it right. And at Architype, the project architects actually read, I think it's called the OM manual, the operation manual for the BMS system and they flag things up, to be sure that it's all set up the way they want it to be set up.

**Ben** 15:00

Yeah, as we're on the topic of Architype, you also include the Enterprise Centre as one of the case studies, and that's somewhere that I was lucky enough to visit during construction. And one of the things that sticks in my mind actually is just when I turned up, and you have to arrive on site, and you sign this form, but I had to say, where I'd come from, what type of vehicle I was driving, how many miles I'd done. So putting in this level of, you know, that's the carbon footprint of the building, is this Jonno, the boss of Architype? Is this just having the whole, you know, mantra of we are, we're trying to do our best we're trying to think of everything for this modern architecture that's taking into account the climate?

**Hattie** 15:42

Well, in that particular building, there was a visionary client, and Architype at this point, I think they're kind of self-selecting, I mean, clients who are going to come to Architype want buildings that are going to perform. So I think that's very rare, that level of detail a visitor to the construction site logging transport miles, but that's what we need to get to, you know, that's definitely what we need to get to. And it's none of this is hard to do. You just have to make it a priority.

**Ben** 16:12

Yeah, I just think that that is also why they are where they are today, because they've invested this way.

Now, just looking at some of the other themes in the book, and one of them is the performance gap. How are we doing then on a bigger picture with the performance gap?

**Hattie** 16:30

That's a really interesting question. And so timely, because all the talk at the moment is really about embodied carbon. And ACAN, the Architects Climate Action Network, has just released a really excellent report on the role of embodied carbon in buildings and what needs to be done to regulate that, which is a very important piece of the puzzle in getting to net zero. But equally important is the operational performance gap. And we have not cracked it. And what we spell out in our book is a very kind of straightforward demystifying process of how to go about getting to grips with the operational emissions of buildings.

**Ben** 17:16

Integrated design is another phrase that I feel like I've seen a few times. So what does that mean?

**Hattie** 17:25

Integrated design is absolutely crucial. And you know, I've been writing about this subject at the Architect's Journal for 12/13 years now and that's one of the themes that came up immediately. So that means you need all the expertise around the table, very early on, even when you're doing a really small project, like a house extension, you know, you really need to be thinking about these issues. Or a self build house, you need to be thinking about the passive design and the fabric of the building, from the very first moment before any sketch is made.

I thought it was very interesting quite a few years ago, Fosters and Partners bought and hired in a whole consultancy of building service engineers, so who are now part of their practice. And you need that expertise, you also need structural expertise, right at the beginning. I mean, even in home extensions, there are ways to reduce the embodied carbon by say, using more timber in place of steel or concrete. And so it means having all that expertise, constantly revisiting and challenging the design decisions all the way along.

**Ben** 18:41

So your book is clearly trying to bring everything together for builders and architects within the industry. But we face a different challenge when we're self builders, that we come to the table, knowing very little and have a steep learning curve. So how would you recommend that people get a good breadth of learning in a couple of months before they embark on their buildings?

**Hattie** 19:09

Yeah, that's a really good question. I mean, this whole question of upskilling is so key for, for the profession, or for anyone who wants to build something. I think our book, we tried to set it out pretty clearly. And we debated, you know, how much do we need in this book about fabric performance, for example. You know, there are other books that cover these kinds of issues, but we felt we had to lay out the whole gamut of issues. You know, there are places to go for training that are, you know, the AECB, the green register, has excellent training. I don't know if you've done any of that. And what do you recommend to people who come to you and want to upskill fast?

**Ben** 19:53

To be honest, I might have been a bit harsh on my two months. I would just say take your time, you know, it's not the stage to rush, because it's the fun bit, spending your time learning about things, and if you can do that before you need to. One of the nice things in my own story was, by the time it came to actually buying a piece of land, everything just slotted into place, because I'd done all the hard work beforehand.

**Hattie** 20:17

I think that is really good advice. I mean, the more that you can figure out before you break ground, you save yourself aggravation, and money in the long run.

**Ben** 20:27

Now, you mention targets in your book. I think there's a whole section on that. So you've obviously got to be careful here. But would you suggest any targets to people or, you know, what was the conclusion from that chapter?

**Hattie** 20:43

I was actually the one who really advocated getting these targets into the book, even though they can change. And so it can mean that it becomes dated, because you can't really know where you are unless you have targets, and you're measuring things. And that's where all the work that led to the London energy transformation initiative has done and the RIBA 2030 challenge have done, they finally have put these targets and benchmarks out there for people to work towards. So at least if you're measuring things, you can know where you are.

**Ben** 21:25

And also you had another section on technology. Was the message here one of simplicity? You know, obviously buildings do benefit sometimes, but you can just pile in too much technology as well.

**Hattie** 21:37

Absolutely, absolutely. And that's very interesting, because Judit has worked with a lot of big projects. So you know, big projects, I mean, even Architype's Enterprise Centre. At that scale of project, they have a BMS system, you know, larger projects do need some of this, but the message that comes across loud and clear from everyone.

I talked to Sarah Wigglesworth on my Climate Champions podcast recently, she just always says, keep it simple, keep it simple, keep it simple, and let people open the windows, etc, etc. And I think one of the messages that Judit is very clear on is that a lot of this technology that's put into buildings has to be tested, and be sure that people can understand it. You know, if you have to hold a button down to open a window, how long do you have to hold it? If it doesn't work the first time, then you push it again and push it again, and things very quickly go wrong. And I think Architype would also, Jonno Hines has said many times, you know, they used to put a lot more windows on actuators, and now they tried to keep that to an absolute strict minimum. The more that can be done manually, the better.

**Ben** 22:52

Now, you mentioned the podcast in there, I was gonna lead on to this. But you actually mentioned a very interesting episode. Maybe you could just

describe a bit of Sarah's experience because I thought that was a fascinating one.

**Hattie** 23:03

Well, Sarah Wigglesworth, it's very, very interesting discussion, because she built her house, which has a cult following, in Islington backing onto a railway with straw bales 20 years ago, and she recently retrofitted it. And she goes into how when they built that 20 years ago, sustainable design was much more about a loose fit. And the building was not designed with airtightness and thermal bridges in mind. And in order to decide what to do in terms of retrofit, they spent a lot of time measuring and put sensors in and went back over all their energy bills. And together with a specialist environmental consultancy, called Enhabit, they developed a kind of a checklist of various things they could do in order of priority.

And this seems like such a straightforward way to go about it. You know, we have so many buildings that need retrofitting in this country. And if you don't measure, you don't know what the priorities are. They used thermal cameras, they, you know, they did a whole series of things. I think they spent a year or two doing all this work before they decided exactly what they were going to do. And this is for someone who's, you know, Sarah's very switched on and committed to the green agenda for many years. This was a learning curve for her. So we all have a learning curve at this point.

**Ben** 24:34

Yeah, and I think it's worth mentioning this, this also goes back further in the conversation to that feedback. But do you think some people are just more open to learning and to doing this work than others? Is that your experience of reporting on architecture?

**Hattie** 24:51

Well, the main problem is that there's often a liability question. Architects don't want to find out that their buildings weren't working properly, and they don't want their clients necessarily, you know, or clients who find out that their buildings aren't working properly, you can run into litigation. You know, it's just people aren't very willing to share these kinds of stories of when things don't work. And that's why I was very happy. In our book, you know, we've got seven case studies where people were willing to share things that didn't quite work out the way they were intended. But that's the only way you make things better. It's a very, very tricky area.

**Ben** 25:31

And you get stronger as well, once you've said, look, we've learnt from this one time, it prepares you for the next time of doing.

**Hattie** 25:37

Absolutely, and Architype comes very strongly on that, you know, at the Enterprise Centre, they had some lighting that didn't work. And by getting all the various players around the table, which is not only the facilities

management, but the lighting company, and I can't remember now, but I think also the like the person who made the dimmer inside the lighting, light fitting, you know, all these different players had to be talking to each other. And it was a conflict between the mechanism in the light fitting and the BMS system were not talking to each other properly.

Similar problems I've encountered, I wrote for the Architect's Journal, a lengthy revisit piece, about LSE's, student union building by O'Donnell and Tuomey. And there they had a problem with windows opening and closing inadvertently when they weren't meant to. And again, you know, all these complex systems really have to be calibrated, commissioned and checked by a very proactive building management team. And in your own house, it's exactly the same, the same issues you have in your own house.

**Ben 26:45**

So you're Sustainability Editor at the Architect's Journal, and I imagine, like me, you find yourself actually surrounded by people who are doing a lot of good work. But I also imagine like me, you want to get to the people that aren't doing quite so well or are early on in their journey. How do you do that?

**Hattie 27:02**

Well, that's the challenge. And I'm really thinking a lot about that at the moment and seeing how you've built up this podcast over the years. And I'm just brand new at this. I have six episodes out of Climate Champions, and I've been getting very positive feedback. But I do have the feeling that it's mostly people who are already interested in this subject who are listening. But with the help of Greta Thunberg, I think more and more people are very much aware of this. And Architects Declare has put this very much on the map, the Architects Climate Action Network, all of this, there's a real thirst, particularly from younger architects and students on this subject. So things are changing at pace. But we've got a lot more to do.

**Ben 27:46**

And with the podcast, are you trying to continue the work that you're doing in your writing? Or how is that playing out?

**Hattie 27:54**

I would say that I was ready for a new horizon. So this is a new challenge for me. Of course, I'll still do some writing when the opportunity arises. But to do a good podcast is a concerted effort. So I'm really focused on that at the moment.

**Ben 28:12**

Well, the book is out now: Energy, People, Buildings. Is there any final thought either on the book or just in general?

**Hattie 28:20**

Now actually having the book in hand, I'd say all three of us, I think I can speak on our behalf, we're quite proud of it. Because I feel like we've managed to make quite a technical subject accessible and engaging. Part of that is, through the case studies that we've chosen, which are, there is one housing in there of a project in Norfolk. But part of it is also that one of my co-authors, Sofie who teaches in Finland now, engaged one of her students to do all the graphics for us. And Heidi did a wonderful job making into diagrams and charts some of these complex ideas.

So I guess you're back to your previous question about do I plan to do more writing about this, I plan to spend some time reaching out and talking to different audiences and students in particular about the content of the book. And I really, thank you, Ben, for this opportunity to talk to your audience because I think there are messages for anyone who's going to be building in this book to understand how the whole process from beginning to end works.

**Ben** 29:28

Well, I think you've done particularly well in how, you mentioned it earlier, how you've kept revising it, because it's so difficult to know what to include without completely complicating things. And I imagine a fair few books go through RIBA Publishing, so I think you've done a really good job, and I wish you all the best with it.

**Hattie** 29:49

Thank you. One other thing I'd just like to point out is, we tried to make the book, while it's quite technical, it has a hierarchy of information. So we have these like little pull out boxes and quotes so that you can read the main text. But you can also just go through read photos, captions, and these side panels and get the gist of things. And then you can read it in layers and there's also a really useful glossary that Sofie did. So we tried to make it so you can dip in and out to the bits you're interested in.

**Ben** 30:24

Well, Hattie, thank you very much for your time today.

**Hattie** 30:27

Thank you, Ben.