

# An interview with: **Ross Harding** (Finding Infinity)

By Stephen McGrail

*Ross Harding is a creative sustainability professional with an academic background in engineering and finance. He has most recently advised the Yarra Energy Foundation on its roadmap for creating a zero carbon City of Yarra by 2020, and has provided sustainability advice and cost/benefit analysis to architectural firms (Foster + Partners, Ateliers Jean Nouvel, Adjaye Associates and Grimshaw Architects). "Finding Infinity" is Ross' most recent project, focusing on bridging the gap between communications and implementation of sustainability. He has recently connected Finding Infinity with Adelaide-based building services firm BESTEC to help establish a new office in Melbourne.*

**It's 2040 and we're living in a radically low carbon and resilient city. What does it look and feel like?**

**Ross Harding (RH):** A lot of what you'd notice is transport, the rest wouldn't necessarily change much. Everyone sees the future as being "back to the future", hoverboards, stuff like that. I see it more like what old European cities were like, and as a smart move in terms of planning. You can walk everywhere, you can walk to work, everything should be within walking or cycling distance.

**Aside from being more walkable is everything else also much more "local"?**

**RH:** Yeah, definitely. Most people would be vegans because to have a low carbon city you would need to have most produce being produced within 100 kilometres of the city. Most people would then be living off plant-based food. In terms of power generation, it's really coming down to battery technology and, as much as I love diversity and renewables, it's really going to be dominated by solar (solar is the king) and there's going to be a lot of decentralised generation, electric cars linked with an intelligent grid, smart sharing of energy loads. Public transport also major. But, overall, I don't actually see it looking that different.



**When you say it doesn't look that different, can you elaborate on what you mean?**

**RH:** Well, I guess in terms of infrastructure the main thing would be the fact that there wouldn't be so many cars, or the cars would be electric. The main difference is that the streets will be more vibrant, everything would be happening more within local neighbourhoods. But I don't see it as being some major technological advance. I see the streets as being quite similar. Hopefully, they're not building too many major apartments and things like that. The other component I think is key in that transition is there's a certain amount that people can be self-sufficient in terms of their own properties but there's also going to be community energy projects. I see local community centres, for example, there being a nice mix between community, energy, even art, there being hubs where people hang out. It might be a public space like a park but it will have a solar field. We're going to have to create these hubs.

**So not completely decentralised to the household level, it also needs to be at larger scales?**

**RH:** Without a doubt it needs to be a mix. I used to be about centralised power generation in terms of shifting from centralised fossil fuels to centralised renewables. I still see

there being some place for that, but I see the transition happening faster if you can decentralise power generation and decentralise ownership. Waste is also a big one and zero waste is a huge part of it, so you won't see rubbish bins like there are now. People will really be smart with their resources and won't even need big recycling bins. People will just reuse stuff. There'll be great local markets where people can get fresh produce, zero waste. And there'll be a lot less recyclables and also landfill, but then for organic waste there'll be hubs where you can generate biogas and create fertiliser which will be part of the community energy projects. I also see small scale hydroelectric projects. Potentially also the Danish model of wind farms around the place as well – well, maybe not within the inner city – it's still not out of the question.

**Are there any other dimensions you wish to discuss, such as for increasing urban resilience?**

**RH:** I always think about it in terms of five components – energy, water, waste, food and transport, sometimes also materials as well. Water is interesting. The water system I think will completely change because now the city's water consumption is about 5% sewer and about 95% greywater, but you then mix all that up and it becomes septic. I would rather see that's decentralised, not so mass scale. After living in Mexico for a while dry toilets became very interesting and it makes so much sense because you don't want to have your human waste mixed with water. If you take that out of it, then you're left with greywater. So I would see there being actually a strong increase in that. There can also be opportunities for more decentralised recycling of water to double pipe the city with treated water, basically.

**Do you think about this mainly in terms of new systems and technologies, or do you also envisage broader changes, such as to society, politics or the economy?**

**RH:** Back in 2015 a barrier was that it was seen as technological and there was no real connection with culture and society. That's why I see things like the introduction of community energy plants that are basically meeting points, and things like that, because I think the solutions were far too disconnected from culture, community and creativity, and by 2040 it becomes very integrated into peoples' lives where it's much more commonplace that this stuff is part of peoples' lives. It's not that it's something people are forced to deal with, but that it makes their lives better by living in that way.

The beauty of being in places where there's amazing local markets and local foods is it's got such cultural impact and the vibrancy of a place where people are walking around their neighbourhood rather than driving around. As soon as you start to create a local community again, you start to ask your neighbour if you can borrow something, things like that, all of this stuff, requires interaction and it's all about bringing back the whole concept of the community in some way.

**It sounds like part of what it feels like in 2040 is that there's a different sense of community?**

**RH:** Definitely. I look at this as what the world was like before there was energy? A perfect example is refrigeration. Refrigeration was such a key technology to promote the globalisation of food and it was key in terms of bringing forward supermarkets, peoples' need for a huge amount of energy to store stuff and things like that. Once upon a time, the transportation of food, the whole local food system was required to be within a local area and storage was forced to be seasonal. Then we flipped around and changed the whole system and relied on energy to create a buffer for all these things. It's the same with comfort in spaces as well. We use energy to compensate for bad design, we use energy to compensate for illogical planning processes, to compensate bad planning of where you work versus where you live. By 2040, by becoming less dependent on energy, the logic came back into living again.

**Which aspects of that lifestyle are now commonplace in 2040?**

**RH:** For example living in a space that's comfortable without the requirement for energy – passive design of buildings. Energy efficiency is not just about using less carbon; it's about not being so reliant on energy to compensate for something stupid. To ride your bike and be able to get from home to work on your bike is that logic. Also the idea of people caring about where the products they purchase come from and transportation in terms of where you go on holidays. By 2040 consumers became more aware of what they're consuming and started to consume less of things that required a lot of energy.

**Looking back over the last 25 years back to 2015, how did we get there? What were some of the key opportunities for change or innovation that helped move towards that future?**

**RH:** Looking back, many initiatives and technologies were cost-effective, with payback periods of five years or less, but they were not fully implemented. So it wasn't simply a barrier of finance – either people didn't know enough about it, didn't want to, or some excuse, there was not that movement.

**How might those barriers have been overcome?**

**RH:** Renewable energy crowd funding. The transition required not just decentralisation of power generation, it also required decentralisation of ownership. Big companies were slower to move and react and they couldn't transition as fast as the average person being prepared to take that risk. There's money around, a huge barrier is always community engagement. And to be able to have the community actually choose to invest in their own power and own their power, it made it that they drove it.

**The key opportunities for change were in communities rather than, say, at a governmental level?**

**RH:** The people had to sort it out for themselves. You did see this uprising of local government because councils started to drive it, State and federal were too slow. Local councils genuinely wanted to take care of the people. They created initiatives and there was this sort of grass roots movement – the spread of information, communication of those initiatives between the community and the community support, linked with crowd funding, enabled those things to eventualise. The other thing was that even in 2015 you started to see so many local markets pop up and things like that, the increase in demand.

**You've had diverse roles in the built environment sector, communications, events. How do you see those roles in terms of that transition? Was it about coming up with ways to make energy efficient buildings, or community involvement and social change? Which were most important?**

**RH:** The thing is – the main thing in 2015 was actually communication and community engagement. Technology continued to improve over the 25 years, but it didn't need to

improve that much. What was lacking was a way of talking to people about the topic that people were interested in and not feeling preached upon.

**Who played these roles in shifting the way that the issues were communicated or thought about?**

**RH:** Businesses, basically any business. It became more and more important to businesses over that period of time. This whole corporate social responsibility thing became far more genuine. And so using their powerful force, businesses started to get involved in creating these campaigns. The community became empowered through businesses. Two things – one is that as the consumers started to want it more, businesses knew they needed to transition their offerings. The other thing about consumers is that they wanted to know that the business was doing something good. That led to more responsibility from businesses to help empower communities to create that transition. Eventually the government got on board with it, but it was really driven by communities and by businesses basically.

**When you think back on the years from 2015 to 2020, that five year block, were there any other emerging opportunities for change that were realised in that initial transitional phase?**

**RH:** Crowd funding was a big part of that, but also, well, people learnt that they could profit from these things. So it wasn't anymore activists saying this is what we want and trying to promote it, but it became driven by people starting up new ways of offering the stuff. I think the other major one was in that transition over that five year period, like this whole internet, energy metering side of things developed. Because until that five year period, people were still making big guesses about where energy was being consumed, people didn't really know. No one really knew where their energy was coming from, no one really knew where it was going even in their own house and all this great technology came out with metering and people knowing exactly where their energy was going in their house and that made it so much easier for them to adjust their behaviour because they were getting all this live information fed back to them. But that also allowed whole areas, even a whole city, to know where all their energy was actually going. So once you got this real information, it made it much easier for people to be able to provide those business opportunities to switch those things around.

