
INVESTING IN A SUSTAINABILITY REVOLUTION

Interview with Kate Fox

MB Malcolm Borthwick

KF Kate Fox

JS Johan Schot

MB Hello and welcome to *Short Briefings on Long Term Thinking*. Thanks for joining us. I'm Malcolm Borthwick, managing editor at Baillie Gifford. The industrial revolution was the world's first deep transition. Coal and steam transformed how we worked and travelled. People swapped agricultural labour for factory jobs, lured to industrial heartlands such as Liverpool, Hamburg, and Boston by the promise of better wages. And steam-powered trains and ships aided the transport of people and goods.

However, it wasn't without its drawbacks. Two centuries later, we face climate change, social inequality, and biodiversity loss as a direct consequence. Finding solutions to these challenges will require radical innovation and further disruption, what some refer to as a second deep transition, a sustainability revolution. In many respects, a second deep transition is clearing up the mess from the first deep transition. Kate Fox is involved in a project to explore what this might mean, led by Utrecht University and the University of Sussex. Kate is one of the managers of our Positive Change Strategy. She joins me here in our Edinburgh studio.

But before we start the conversation, some important information. Please remember that, as with all investments, your capital is at risk and your income is not guaranteed.

Kate, thanks for joining us on this podcast. Great to have you with us.

KF Morning. Thanks for having me, Malcolm.

MB So, let's start with why are deep transitions relevant to you as an investor.

KF I think there are two key reasons. Firstly, deep transition needs to happen to undo



the harm that's been created by the first deep transition. So, you referenced the industrial revolution, Malcolm, and great things came from that in terms of prosperity, technological advancement, etc., but there have been some unintended negative consequences, climate change, biodiversity risk, and rising inequality. So, change needs to happen.

And secondly, it's important because from change comes an opportunity, and that's great for long-term growth investors. If we think about the healthcare revolution, that'll create exciting areas for us to identify the growth businesses of the future. The agricultural system currently is very industrialised. It consumes a huge amount of water. It's responsible for up to 20 per cent of global emissions. Change really excites me as an investor because that's where we identify the companies that are driving that change. They'll be the companies that generate attractive investment returns over the coming years and decades.

MB So, let's talk a little bit about the Deep Transitions research project. One of our former investment managers, James Anderson, began supporting it while he was still with us. And both James and Baillie Gifford continue to be involved. Let's hear from the leader of the project. Professor Johan Schot from Utrecht University's Centre for Global Challenges describes himself as a time traveller. Earlier, I asked him why

JS It means that I mobilise the past to think about the future. So, I try to understand the past, the way it constrains our current behaviour, but also the way it enables new types of behaviour.

Because the past consists, on the one hand, of dominant parents and dominant ways of doing things, but on the other hand, it also consists of roads not taken or alternative practices that have never become dominant but may become an inspiration for the future. The past can also be used to test some of our ideas and to develop theories. So, when we travel to the future, we come armed with a very good understanding of the constraints and the enabling factors, and this will help us to build scenarios and ways of thinking about the future.

MB And that's Johan Schot, time traveller and founder of the Deep Transitions research project. What attracted you to the project, Kate?

KF Firstly, there's a huge alignment around a sustainability revolution, as you described it, and being an impact investor with Positive Change. We're trying to address those global challenges such as climate change, biodiversity loss, and rising inequalities. Secondly, the long-termism. So, to come across a project that was thinking over the last 250 years was really quite unique, and, as part of the project, we've been imagining future world scenarios, thinking to 2030 and 2050.

Thirdly, impact investing tends to be quite a collaborative discipline, so I was looking forward to learning and interacting with investors from different parts of the world; the global north, the global south, and people that are involved in public investing and private investing. And finally, and probably most importantly, I was really excited about it being an opportunity for me to think



differently.

MB: You mentioned earlier imagining future world scenarios. Let's get an idea of what that involved.

"The year is 2050. Changing attitudes to engineered foods have catalysed the development of lab-grown meat and the use of urban vertical farms growing genetically enhanced fruit and vegetables. New technologies allow enthusiasts to safely experiment with biohacking themselves, leading to fierce competition between mega-corporations and open-source citizen-run bio labs. Meanwhile, 'nature' has become a wild space largely devoid of agricultural activities.

Ask yourselves: how did these changes occur? How will these developments play out? And what other niche technologies would make this world more desirable?"

MB: Pretty radical stuff. And that's only one of the future world scenarios you had to consider. Another involved flying cars piloted by artificial intelligence that remove carbon from the air, while a third example centred on the use of hydrogen-powered data centres on the moon. All exciting ideas that could bring about transformative change in the future. But what did you discover that you can put to practical use today?

KF So I've learned to think about companies that we invest in and opportunities for companies that we might invest in differently. I think there are two key elements to that, to use some of the language of the project and the frameworks. First of all, I think I've got a greater appreciation of the fragility of niches within a system. So what's a niche within a system? A niche within a system is a space of radical innovation. So electric vehicles would have been a niche for a number of years, well, decades really, until Tesla did a terrific job of helping them transcend beyond a niche.

Plant-based meat products or meat alternatives are still relatively niche-y, as it were, so Beyond Meat burgers. Another example might be flying electric taxis. That's still a very early-stage niche. With a niche, you've got to think about all the different actors within the existing system that dominate, whose interest it might not be for those niches to flourish, but that's where we become really important as investors in helping create that space for the niches to flourish.

The second way of thinking that really resonated, or was that eureka moment, for me in the project was differentiating between systems optimisation and systems transformation.

MB Can you give me an example?

KF So electric vehicles, they're helping optimise the current mobility system. They are terrific in that they are less carbon-intensive than internal combustion engines. So in a way, Tesla has played a vital role in helping optimise the system. Now, the challenge that Johan and his researchers have presented with that is, well, is that optimising the current system, which is, that we all think we need to own our



car. Whereas actually transforming the system would be moving towards mobility as a service. So that would be enabled by autonomous vehicles, perhaps the Robotaxi at Tesla, so that these vehicles can be used more often. It's a shared system.

MB So the optimisation is almost working and improving within the current system, and the transformation is something that's completely different that's going outside of the system. Give me some other examples of companies that you might be looking at that can make that transformative step.

KF Yes. So following some of the sessions that we'd had with the panel, I tried to explore with colleagues a company called Deere which we invested in on Positive Change, which makes the iconic green tractors. What excites us about Deere is its precision agriculture equipment, which uses a combination of sensors, cameras, and data to help identify what's a plant and what's a weed, so that it can apply herbicides and fertilisers appropriately, which means that we can increase yields by using fewer chemical fertilisers.

But what I was intrigued to explore is whether this contributes to optimising the current industrialised agriculture system or can it contribute towards transformation where we use more regenerative and nature-based solutions. And I think that there is perhaps a case for Deere helping to contribute towards that transformation, as its precision agriculture equipment can help farmers apply things in a more precise manner. Smaller tractors can be more nimble, and more agile so that they can operate farms that are much less ubiquitous and perhaps a field that has got two crops intercropping, which is much better from a biodiversity perspective.

MB And are you seeing many hugely transformative companies out there?

KF I think we're at a really exciting point where there are a number of technologies that are exciting in isolation but also in combination come together that can create a fantastic transformation. If we think about Moderna, for example, where it's the understanding of biology combined with data and AI, and machine learning. Bring that together, and you've got that something really quite transformative.

MB What are the principles that investors should follow to achieve this second deep transition that we've talked about, the sustainability revolution?

KF So the output of the global panel work was the establishment of a transformative investment philosophy, of which there are 12 principles for different stakeholders to adopt, so investors in the private and public space, policymakers, lots of different people within the system if you like. Some of those principles are consistent with those that we've been applying at Baillie Gifford for decades. So for example, principle number two is about being long-term. Principle number six is about embracing uncertainty. And principle number 11 is about fostering an interdisciplinary research approach.

But there are some that I think will help me keep pushing on and advancing. We're always trying to get better at everything that we do at Baillie Gifford. So,



one of those would be principle number one of the 12 principles, which is transform the system, which we've just explored. The second one would be principle number five, which is to enhance portfolio synergies. So here it's about thinking about a collection of ideas or companies that, in combination, will support one another and maximise the chances of success.

So if we go back to the electric vehicle example, we won't be able to transform the mobility system just by coming up with fantastic vehicles. We've got to make sure that we've got the charging network that can support that. We've got to make sure that we've got good batteries, and there are a number of different battery companies and technologies. Can we recycle those batteries? Umicore and Northvolt, for example, would contribute towards recycling. So that's something else that I'm really excited about applying.

MB I guess there's a danger of getting tunnel vision about a company and what it's doing without working out the environment in which it could be successful and what's required for its success.

KF Yes, absolutely. I think this is what this project has done. It's about helping remove the blinkers and increasing our chances of thinking at a much broader level, at a systems-wide level, thinking about a company's role within a system and between different systems and all the different connections that are going to be required for a company or a niche to thrive.

MB And let's go back to Johan Schot here. Earlier, I asked him what was next for the Deep Transitions project.

JS The next phase is about implementation. So how can we implement these ideas in actual investment practice? So, the main vision is that we want to bring together a set of frontrunners who want to experiment with using these ideas in the investment practice and, through this, develop the narrative around transformative investment. The Deep Transitions lab we want to create should also become a mobilising force for bringing about change.

So, it's on the one hand about the frontrunners, but these frontrunners need to connect with other investors to enable a larger change in the finance industry in the coming decade because this is crucially important for enabling the second deep transition, that investors will change their practice.

MB Johan Schot there. What excites you about the next steps that Johan was describing?

KF Yes. I think the primary thing that excites me about it is that it's taking all this thinking to actually doing. It's about applying what we've learnt. I love the fact that it's taking an experimental approach. And also, the long-term approach. So, it's not just about doing the experiments. It's about learning from the experiments and using those learnings to help educate the next generation of investors because this is going to be a multi-decade approach.

MB And this isn't just about Baillie Gifford. This is about trying to mobilise interest



and action from the wider industry as well as policymakers and others.

KF Yes, absolutely, because it's going to take lots of different groups within society if we're to be successful in addressing the challenges that we face. In some ways, I think this transformative investment philosophy is like a niche within the financial system. So, it's fragile but it's important. We want to be able to transform or help to contribute towards the transformation of the financial system so that more capital is deployed towards enabling that second and important deep transition.

MB Because it's the mobilisation of capital that's absolutely crucial here, isn't it, in terms of driving change?

KF Yes, and I think that's something that I was naïve in my understanding when I started out as an investor 20 years ago was the power of capital. Capital can be a really important mechanism for change. It's not the only mechanism for change, but it's a key mechanism for change.

MB And how much of that motivates you personally as an investor?

KF Hugely. The last seven years have been absolutely the highlight of my career so far, and I'm really excited about the next 15 years of deploying capital toward driving change.

MB And there's a positive note to end on. Kate, thanks for joining us on this podcast.

KF Thank you for having me.

MB And thanks to you, the listeners, for investing your time in this podcast. And if you enjoyed the conversation, you can check out more of our thoughts on the ideas that are shaping the future and your investments at bailliegifford.com/insights.

And you heard earlier from Johan Schot. If you'd like to discover more about his work on transformative investment, visit transformativeinvestment.net. And to stay up to date with the development of the Deep Transitions lab, you can follow @DTransitions2 on Twitter. That's two the number as opposed to two spelt out. And if you're listening at home, if you're listening in the car, wherever you're listening, stay well and we look forward to bringing you more insights in our next podcast.

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