

Mike Pitts

I: I'm very happy today to have with me Michael Pitts from the Technology Strategy Board, which is part of the UK government concerned with innovation. Michael is the sustainability manager. So, Michael, welcome, thank you very much for talking with us. Sustainability – why is that an innovation challenge?

MP: The Technology Strategy Board, we are the UK government's innovation agency, and what we're trying to do is get companies to innovate more quickly, because that's how you get growth. So, a lot of that is about understanding where market opportunities arise. Sustainability really is a massive market driver.

So, if you look at the classic idea of the sustainable economy, it's got three legs – environmental, economic and social – people are quite good at thinking about economic drivers, certainly most entrepreneurs and innovators are quite good at thinking about technology changes and what their customers might want in 10 years. They're quite poor at thinking about how social changes and environmental limits will affect their markets. So, it's all about market changes and we think something like two thirds of the UK economy, as it stands, within 10, 15, 20 years will have to change because of environmental and social drivers. So, think about it, because they are where the opportunities come from.

Really what we're looking at is, by 2015 there will be nine and a half billion people on the planet and our definition of sustainability is, how do all those people live well with the resources of a single planet.

I: I know you've done quite a lot of work on resources in your previous career. Can you give an example of where we've got a real resource challenge we'll have to innovate around?

MP: There are big challenges around resources. We all know about the challenges of things like fossil fuels, access to minerals, access to water. All these, even some biotic resources are a problem, because of that growing population, because of growing living standards that are important. So, we're consuming more and more stuff and we're doing it in a very linear fashion – we extract it, we add value to it, then we throw it away. That has to change. We know that has to change.

There are two problems there: the first one is the easy stuff to get hold off has been gotten hold of. We're having to spend more and more money and be more and more clever about extracting mineral resources, especially, and water resources now to be able to keep driving our economy the way it is. The other side of it are the social sides of things. People don't like big holes in the ground next to them anymore. We can't export our resource needs to developing countries that don't care about anymore, because that isn't the case. The world doesn't have developing countries anymore. People are very aware of their resource values. Those countries want to

be able to move up the value chain with their resources as well. That's happening and that's going to gather pace more and more.

So, the social and environmental restrictions around the way we get hold of our resources, we have to be smarter with the ones we've got already.

I: That raises a huge innovation agenda. In terms of organisations, companies and how they manage innovation, how does that translate in terms of the challenges they will face?

MP: So companies need to think about the environmental limits, they need to work within and also think about the social value they're creating and where society will allow them to keep working. We've got to build that into our thinking from the very beginning, so these become big drivers of innovation, if they're thought about in the right way. So, what we're always trying to get companies to do is to think about social and environmental challenges from the very beginning and build that in. So, when you think about a market problem properly, then you do a much better job of defining the solution that needs to be brought to market. Then at that point you can start thinking about where your technology fits in.

The problem that most companies face, and this is the piece of advice I might be able to give them, is that too often redefine a problem to one you can solve with the technology that you already have, rather than actually thinking about what it is the market needs and then seeing where you can get the bits of the solution that you're missing. It will often come through partnerships or purchasing technology or the research you should be doing now to solve that problem further down the line.

So that's how companies can manage these times better, if they really properly understand all of the drivers behind a particular market opportunity, so you define the solution that you want to bring to market properly.

I: And, within that space, which is clearly a new agenda for many businesses, where does an agency like the TSB, an innovation agency, where does it play a role and what can you do to help that process of change?

MP: So we embed sustainability thinking in all of our programmes. We've done some of that thinking before our companies before they come and apply. So companies comes to us really to get support and share in the risk for doing the more exciting innovation. We want them to bring forward the more exciting but scary ideas that they have. One of the ways that we do is by investing in business-led projects and sharing some of that risk in doing that. That risk might be that you're applying technology to a new area, you're developing a technology beyond its current state of the art or you're partnering with someone who's got part of the solution or you're tackling a whole new market challenge in a different way. We're very keen on business model innovation. We don't tend to get as much of it as we might like.

The way we do that thinking internally, to make sure sustainability is built in, is we use a tool that we've developed together with Forum for the Future called 'Horizons', which is, essentially, a description of what we think a sustainable economy looks like and lays out all the environmental boundaries and social foundations that we think are important for a sustainable economy. You really should be able to look at that and think, 'Which of these relate to my business, my projects, my opportunity?' They should resonate with you. Two or three really should become fundamental from the beginning in how you plan things.

So, we use that internally on all our programmes and we encourage anyone working with us or applying to us to use the framework as well. It's freely available – horizons.innovateuk.org. We'd encourage you to go on there and that's how we try to help people to think about that. We do have some very specific sustainability-led competitions, but, on the whole, it's one of those things that makes sense only through all of the activities that we do. It's fully embedded, and that's one of my jobs.

I: Sounds fantastic and we'll make sure that link is available. I guess a last question: you've got a background in promoting innovation, I know, originally in the chemical industry and now, of course, this hugely important agenda around sustainability. If Uncle Michael were to give some advice to an inspiring innovation manager, any sort of tips?

MP: I would say think about the market pull. Why are you doing this? What is your value proposition? What is it that you really bring to market? Earlier on we were talking about the fact that the company doesn't understand why your customers are buying your product and you're making money by accident. Understand what the market pull for your solution is. I've certainly worked in businesses in the past where we had a great solution for a market that we didn't know very well and we were too afraid to go and play in. Understand where your solution really fits. Don't fall into that trap of redefining, as I said earlier, a market problem to one that you can solve with the technology you have. Have a proper adult conversation. Understand what it is the market needs. Define that very carefully and then look at what technology is needed to deliver that, or partnerships.

I: Sounds pretty good advice to me. Michael, thank you very much indeed. If people want to know more we'll make sure the website link is available. Thanks very much.

MP: Cheers.