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## **Heimo Scheuch Podcast, Episode 28**

Guest: Prof. Dr. Michael Braungart, Process engineer, chemist, and developer of the Cradle-to-Cradle concept

### **00:00:00 Heimo Scheuch**

Also, ladies and gentlemen, welcome to my podcast! I am Heimo Scheuch, the CEO of Wienerberger, and today I have a very special guest whom I'm looking forward to. I should actually say "Professor Cradle to Cradle," that's how we first met!

### **00:00:19 Michael Braungart**

Yes, you can also say "Knödel to Knödel" (dumpling to dumpling)!

### **00:00:21 Heimo Scheuch**

No, I won't do that! I won't do that! Mr. Professor Braungart, welcome to my podcast! A little joke is allowed, and we have known each other for a very long time!

### **00:00:33 Michael Braungart**

Yes, yes, we originally met in 2010. You organized an event on sustainability, and we had a good exchange!

### **00:00:41 Heimo Scheuch**

Exactly!

### **00:00:33 Michael Braungart**

And now, 13 years later, a bit of recycling!

### **00:00:41 Heimo Scheuch**

In that sense, the relationship is sustainable and resilient. But Professor, as an introductory question, maybe a somewhat provocative one: back then, we discussed sustainability and Cradle to Cradle quite extensively. Have we made progress in these 12 years? Not specifically Wienerberger, but in general?

### **00:01:09 Michael Braungart**

Yes, in general, we have made progress, but we are moving too slowly. We will reach a point where society will no longer have the vitality to make changes because it will spend so much on repairs or destruction that it won't be able to create anything new. It's like sitting on the Titanic and switching from a teaspoon to a tablespoon instead of eating. It's heading in the right direction, but too slowly.

### **00:01:35 Heimo Scheuch**

It sounds quite dramatic, what you're describing. Um... may I be a bit more positive as a counterpoint? I do believe that we are doing a lot, especially here in the industry. If I may refer to Wienerberger as an example, we are making great strides in the circular economy. Of course, we cannot solve all the issues in the world simultaneously, that's clear. Everyone is doing their part, but I must say that back when you introduced the Cradle to Cradle project, many were far from a circular economy. Today, we already recognize the value of "secondary raw materials" instead of calling it "waste" or something similar. I see

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you smiling when I say that, but is it actually the right approach to regulate it more strictly, considering the latest proposals from the European Commission, aiming for at least 30% of secondary raw materials or similar?

### **00:02:42 Michael Braungart**

Well, it is reported more or less. My biggest enemies in the companies are now the sustainability officers because they don't want to change anything anymore. They just increase the recycling rate by 3%, make the plastic bottles a little lighter, connect two electric cars, print the report on recycled paper, and yes, they have their annual conference. Just McKinsey & Co, it's not like how you do it in the company, but what McKinsey & Co earns from sustainability reporting is over 9 billion in the European Union. Now, with ESG, which stands for environmental, social, and governance reporting, it will be over 30 billion. The whole taxonomy means that you report even more, but the more you report, the less you actually do. Firstly, because you don't have the money for it, but secondly, because then you would have to report even more. That means you stick to the existing things, and the existing things are wrong. The things made for recycling are usually never intended for recycling. So if I make the wrong thing perfect, it's just perfectly wrong, and that's a bit more about reporting. Anyone who thinks something is happening is like when two psychologists meet at Stephansplatz and one says, "Do you know how to get to Westbahnhof from here?" And the other says, "No, sorry, but good thing we talked about it." So the reality is... on the contrary: destruction is happening so rapidly, and now it's actually about not placing the sustainability department somewhere in communication, the sustainability department should be the innovation department! Then we can turn 40 years of doomsday discussions into innovations - into quality. Here's a small example: I just did the opening speech for German Straw Bale Day, and they already bring these strange straw bales from the combine harvester there, right? Straw and bales and clay construction are actually high-tech, right? And then they have an ecological niche for it, and they feel comfortable in their ecological niche, but we should already ask, not how do I do it right now, but what is the right thing in the first place, and otherwise, you make the wrong thing right and then right wrong..

### **00:04:48 Heimo Scheuch**

I can definitely relate to that, just one thing to add. When I visualize all the additional regulations that have been introduced in the last ten years and that we have to deal with today, both in our personal and professional lives, it does raise a valid question of whether we are on the right path. And one could certainly argue that maybe we should apply a little more common sense to drive things forward faster..

### **00:05:21 Michael Braungart**

Well, I actually think that reporting has gotten out of control, and so has regulation, because regulation also means that you can only determine the past. But I'm interested in the future. Let's look at some practical things, in a completely different business area, for example, people bring shoes to the market without considering what happens with the abrasion. Isn't that astonishing? But why doesn't the industry take care of it themselves? Why does it have to be regulated? On average, every person releases 110 grams of microplastics. People use tissue paper; I conducted a study with the Soil Science University in Vienna, and it was found that they remain on the ground for 18 years at an altitude of 2000 meters. People think, "Oh, look at these beautiful edelweiss flowers," and

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we also have labels on vegetables, which are made of plastic. I recently attended a major plastic conference in Paris. What they do is optimize existing things, and that's... well... for example, old PET bottles are now being mixed into bicycle paths in Amsterdam, and that is considered a circular economy. Or toxic fly ash is mixed into bricks, which Wienerberger does not do, but the bricks still look the same afterwards, and they receive EU funding in Bulgaria for the circular economy. However, a circular economy is quite boring, like riding a Ferris wheel, you know? After the third time, I start to feel what it's actually like here at the Prater, so to speak. That means, first of all, we need to ask. These are not cycles; they are spaces. Today it's a washing machine, tomorrow it's a car part, the day after tomorrow it's a floor covering. These are spaces, not cycles in the true sense. It's a human projection, and then people talk about longevity, but the products haven't even lived yet; they are being used. With longevity, I lose the ability to reuse the materials. A material that is in the ground or that contains no toxins can naturally last for centuries, like a cathedral, but a window, for example, should be used for a defined time period so that I know when the material will be available again.

#### **00:07:24 Heimo Scheuch**

Where you, excuse me for interrupting, where you advocate, is actually to say intelligent products, so products that, in terms of their lifecycle, either they are durable products if they have a relatively natural environment and are also made from natural materials, or they have a limited lifespan but are so intelligent that they can be disassembled or reused in a sense, but not downcycled, rather upcycled, right? In that sense...?

#### **00:07:57 Michael Braungart**

Yes, everything that wears out, like shoe soles, brake pads, or car tires, should be made in a way that is biologically beneficial. Car tires are made from 470 different chemicals, and people think it's good for the environment if fewer tires are needed because they last longer. But as a result, the dust becomes more dangerous! They have optimized it the wrong way! Previously, the dust stayed on the road, but now it is inhaled, and over half of the microplastics in the Danube River are tire abrasion. So, everything that wears out must be biologically beneficial. Everything that is only used goes into the technosphere, right? That's why things can be designed completely differently but with defined periods of use. So, if they are toxic or contain rare elements, they must have defined periods of use so that we know when the material becomes available for others again..

#### **00:08:46 Heimo Scheuch**

How long do you think a house should actually last? You live in the Lüneburg Heath yourself, where there are also some old buildings..

#### **00:08:53 Michael Braungart**

So, the core of a house should have eternal value. That I can really walk away from it. Take, for example, the Cologne Cathedral or the St. Jacob's Church in Lüneburg. Those are solid brick buildings, and I only need to remove the windows because they contain lead. Then the entire building can later serve as a habitat for bats. It doesn't matter; I don't have to worry about it. In fact, I'm glad that there's a building that may slowly deteriorate. But as I mentioned, if it contains rare and toxic substances, then it must have defined periods of use. For example, ultimately, nobody needs a facade on a house. Nobody needs a window! Just imagine, not a single glass window has ever been recycled into another glass window! Donald Trump lies to people so much more honestly, right? Not a

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single car has ever been recycled into another car. All non-ferrous metals like chrome, nickel, cobalt, manganese, tungsten, end up in reinforced concrete, and that's called recycling. More, I praise Donald Trump for that! I always know that when he opens his mouth, he's lying to people. But we're talking about recycling where none actually takes place. Even PVC, for example, I mean, it can be used for pipes, and it can last for a very long time, maybe even a hundred years. But even then, you would still have to keep that PVC with the manufacturer because otherwise, they would have problems with it in 300 years, right? You have to say, "I'm just selling a transit insurance policy," for example. But PVC is actually the wrong material. You can see it in the fact that, for example, shoe soles are made of PVC, or even adhesive plasters are made of PVC. In Conrad in Egypt - I just came back from Egypt - there's meters-high plastic waste, and we say, a little bit racially biased, that Egyptians have no environmental awareness, but they have the wrong packaging, right? It simply doesn't make sense! Washing it is three times more expensive than the value of the plastic, and that's just because of 5% PVC. I could tolerate PVC for pipelines and window frames, even for floor coverings, if the other applications disappeared, those short-lived areas where PVC has no place. Packaging? Yes, these washable wallpapers, for example. I mean, this industry has no scruples! They create the most wonderful PR stories, and then you have the problems because they say, what? You use PVC? But yes, it's actually the wrong material, but it's needed, so to speak, because you need the caustic soda, and then it becomes a co-product where you can sensibly use chlorine. But it must truly be in durable materials with defined periods of use, and you only sell the service, the use of it, because then you know how the material can be recovered again..

### **00:11:43 Heimo Scheuch**

Yes, that's not actually a problem, right? When I think about it in the pipe sector, in the plastic pipe sector, it's fully recyclable, and we can recycle it again!

### **00:11:53 Michael Braungart**

PVC is not recyclable! It can be downcycled, meaning it can be used in the pipe sector three times, and that's it! In addition to that..

### **00:12:01 Heimo Scheuch**

Although, if I use it three times, I'm already well beyond 300 years, so...

### **00:12:05 Michael Braungart**

Of course, it's better if I only hit my child five times instead of ten times, but that's not child protection, right? Similarly, it's not environmental protection if I just commit a little less pollution. Following this logic, for example, the German Democratic Republic (GDR), the former East Germany, protected the environment much better than Austria simply due to inefficiency. They didn't have the money to destroy wetlands. We need to learn to be useful, not just less harmful. But what's happening? I'm currently studying the waters in Vorarlberg, and they are all contaminated with ski wax. People are actually producing ski wax without considering what happens to it, and then they say, "Oh, we're making progress in circular economy," right? It's well-intentioned, they made an effort, so to speak. I need to be in Hamburg tonight, and I say, "I'll start walking now," and they respond, "Oh, that's a step in the right direction, that's great, right?" Well, we will never reach our destination with what we are doing now!

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### **00:12:55 Heimo Scheuch**

Well, never reaching our destination... I just believe that if we, in Europe, take technological and product-specific steps that could be applied in other countries, it would indeed have a tremendous multiplier effect.

### **00:13:11 Michael Braungart**

Yes, let's put it this way: the cement industry in the Federal Republic of Germany emits about the same amount of CO<sub>2</sub> as the cement industry in China. So, while it's nice if we can save a little bit of carbon dioxide, if we succeed in inspiring people in China and India with what we're doing, then things will change!

### **00:13:35 Heimo Scheuch**

That's exactly what I meant. In my opinion, we should focus on making significant progress here in terms of technology, as you mentioned, from the raw materials used to the application of the products themselves. I believe that we are capable of making advancements and this is my plea for optimism, rather than dwelling on the negative. We should truly concentrate on innovation and new solutions, as I fully agree with your emphasis on working to protect nature and the planet, rather than contributing to their destruction. Additionally, we should push forward with our technological initiatives and implement them in other countries as well.

### **00:14:20 Michael Braungart**

Yes, but you come from a region where the Grossglockner is not far away, right? Originally from Carinthia... and I was there last year, and I'm going again this year. There's a conference on the Anthropocene in Heiligenblut, and I looked at the glacier there. In the spot where I took a photo, there were still glaciers in 1995. That means you can't even see the glacier from there anymore, right? And it's kilometers away! This means that with the current levels of greenhouse gases, we are destroying this planet. Permafrost is disappearing, polar ice is melting, and the Greenland ice is melting 60 times faster than previously thought just five years ago. The melting of the Greenland ice alone would lead to a sea-level rise of seven meters. So, we have the wrong objectives. We currently have 420 ppm of carbon dioxide in the atmosphere, and we need to return to the 300 ppm level we had in 1900. That's a different goal than the 1.5-degree target. It means..

### **00:15:21 Heimo Scheuch**

You're right about that, however...

### **00:15:31 Michael Braungart**

To slow down the destruction of the planet, and now we're seeing more and more desperate people in Central Europe who are sticking themselves somewhere with the most toxic adhesives, and then their hand gets stuck, and a police officer rips it off, leaving half of the hand stuck to the asphalt. Afterwards, I may still be able to commit bank robberies, so there's at least a chance for that, but I will never again feel what it's like to touch my girlfriend. This means they are truly desperate. It's not that they're foolish, but they are genuinely desperate because we lack positive goals. I remain optimistic! We can do it, we know what needs to be done, but we are too slow.

### **00:16:00 Heimo Scheuch**

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Well, in terms of being too slow... let's take a moment to step outside of this discussion. We have political systems that are inherently slow, and as you know, they are not necessarily known for being decisive, especially in Western Europe. Additionally, we have a rapidly growing global population, and we cannot deny that fact. We need to acknowledge that we have to learn how to deal with these two major challenges. It is true that changes can occur more quickly in a dictatorship, as we both know from history, but that is not something we welcome in our systems because it goes against our values..

### **00:16:34 Michael Braungart**

No, no, innovation requires trust and reliability. Exactly! This means that while dictatorial regimes may be effective in implementation, they are almost irrelevant when it comes to innovation, because existing practices can be optimized by anyone. But for something new, I need trust, right? That's what it's all about!

### **00:16:50 Heimo Scheuch**

And we need to rebuild that trust. Today, we cannot allow politics and others to deliberately destroy that trust and profit from it. Instead, we should strive to create a healthy and trustworthy environment, so that people can believe in it again. They shouldn't resort to desperate measures like getting stuck somewhere or polluting water with chemicals. We need to show them that we are taking action, that we are actively doing something. And that actually gives me a more positive outlook. If I may draw an analogy to companies, we have grown significantly, as you know. We now have over 20,000 employees. And creating awareness about biodiversity and taking concrete steps to make a difference, that's what we need to do, right?

### **00:17:38 Michael Braungart**

But may I interrupt? You're not doing enough in terms of communication! You know, I'm here for free, so I'm not paid to promote you or anything like that. But I'm here because I truly admire what you're doing in Belgium, and it's exactly Cradle to Cradle. Before, there's just agricultural desert, and then you create a clay pit that's already designed to become a habitat afterwards. And what I've seen there, with fish herons, kingfishers, river terns, swifts, it's a paradise! So, you're actually practicing Cradle to Cradle! We celebrate the human footprint, and the biomass of ants is four times higher than that of humans, so we're not too many, we're just too dumb! The calorie consumption of ants is equivalent to 30 billion humans. There aren't too many ants, it's actually because of them that we have the rainforest. So let's have a large footprint that becomes a wetland, instead of trying to avoid, save, abstain, and feel guilty. Currently, the environmental discussion says it's actually better if you don't exist at all..

### **00:18:39 Heimo Scheuch**

YES! Exactly, that's my point, and we agree on that! I believe that's the negative aspect, and as a company, we are trying to counteract it by saying, "We are here, we are actively involved, we are doing something, we are contributing." And as you mentioned, perhaps we could write or talk more about it, but it's important for us to be engaged in action. That's what I'm trying to convey because, otherwise, if we only talk, nothing happens.!

### **00:17:38 Michael Braungart**

Yes, yes! Cradle to Cradle is now being taught at practically all major design schools around the world because previously, designers were mostly focused on beautification,

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right? Now they are true creators, and I want to support that creative drive. People tend to enjoy portraying themselves as victims, and it has a relieving effect. But no, no, we have been engaging in environmental discussions for the past 40 years, and we can create innovations from that that don't compete with slave labor because they excel in quality..

#### **00:19:37 Heimo Scheuch**

Yes, I see it in our case as well. We are making significant progress, and you are familiar with our products; I believe you appreciate them too. We are doing a lot to advance sustainability in a holistic sense, not just in terms of the product itself. And, of course, we are harnessing the positive aspects of a brick, for example, in terms of cooling and heating, in construction.

#### **00:20:01 Michael Braungart**

Absolutely! However, I would still suggest that in five years, we should exclusively produce roof tiles with built-in solar panels and no other traditional tiles. We need to utilize the roof surfaces for solar energy generation and adopt a different business model. Instead of selling the products, we should offer only the right to use them. In Germany, we had a company called Schüco that built the largest and most impressive solar installations worldwide. They developed solar panels that still maintained 93% efficiency after 19 years. I personally measured their performance, and they outperformed Chinese panels that lost half their efficiency within the first five years. If Schüco had only sold the usage rights instead of the panels, durable products would have been financially viable because profits would be generated through their longevity rather than their failure. If they hadn't sold the solar installations, they would have been 30% more expensive upfront, but over 20 years, Schüco solar panels would have been 40% more cost-effective in terms of kilowatt-hours. The entire mechanical engineering industry needs to adapt. Take EBM-Papst, for example, a company that manufactures fans like no other in the world. Their fans require no maintenance for ten years, none at all. But what do they do? They sell them! Within two months, their products are copied in Shanghai, but the knockoff EBM-Papst fans are broken within two years. If they were to sell ten years of clean air, they would be unmatched in terms of affordability. The business models need to change, including Wienerberger's. Nobody needs these tiles; what people need is the right to use them. Therefore, all tiles sold for roofs should definitely be solar tiles. You have already made significant strides in pioneering efforts, such as Clickbricks and providing façades as a service. So, how about truly embracing change? Every roof should serve a purpose, including cooling. The mass of rooftops is important in this context. In Austria, it's already warm enough, isn't it? If we can manage to balance summers and winters, it would be a significant achievement..

#### **00:22:13 Heimo Scheuch**

We are not only active in Austria.

#### **00:22:14 Michael Braungart**

Yes, I'm just saying. That applies in many cases. Well, we can essentially use the heat of the summer, if we store it properly, to utilize it during the winter, right?

#### **00:22:23 Heimo Scheuch**

We do that too!

#### **00:22:26 Michael Braungart**

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And we can certainly achieve that through extensive construction, and in that regard, I fully agree with Wienerberger.

### **00:22:31 Heimo Scheuch**

That's correct. To confirm, we are certainly open to these topics and can also contribute to them. You mentioned the roof, and we are already evolving from a protective roof to a functional roof because water also plays a significant role, as you know. It's not just about solar energy; in the future, it will be important to holistically utilize resources. It will be our collective task in the Western world. Of course, changing business models also necessitate changes on a larger scale. As a supplier in the construction industry, we acknowledge that the construction sector itself needs to reinvent itself. That's absolutely right!

### **00:23:05 Michael Braungart**

Well, we have actually divided ourselves into two entities. There's the institute that focuses on innovations, new concepts, and business models, which is called Braungart EPEA. And then, I have transferred 74.9% of my ownership to Drees & Sommer, a major construction and project management firm. They prefer to use Wienerberger products for Cradle to Cradle applications. So, the agreement is that all projects undertaken by Drees & Sommer, including those in Austria and worldwide, will now incorporate Cradle to Cradle products. This is fantastic because it allows us to implement our ideas much faster. This arrangement has been in place for three years now, and it has some advantages. In the past, I often managed a large office by balancing poor management with good ideas, but that is not necessarily a sustainable business model in the long run.

### **00:24:01 Heimo Scheuch**

Not in the long run, no, but that encourages us! Thank you for pointing out that we are on the right track, and we will continue along this path, Professor. Thank you for the conversation!

### **00:24:09 Michael Braungart**

Yes, gladly! I would be delighted if representatives from Wienerberger and others could attend the conference. It will take place in Berlin on September 8th and 9th, after the COVID-19 pandemic, and it will bring together architects, designers, environmental experts, and industry professionals. There are partnerships in place now, such as the strong support of Cradle to Cradle by companies like Schüco, Grohe, and others in the construction sector. Collaboration is essential, especially when incorporating materials like tiles alongside the bricks, ensuring they are free of toxic substances. What has finally happened is that the European Union has embraced Cradle to Cradle as the foundation for its circular economy. The distinction between the biosphere and technosphere is now recognized, and I believe this will bring about significant changes, perhaps even at an accelerated pace. It is certainly understandable to be a little impatient, as complacency can eventually set in if we are not proactive.

### **00:25:18 Heimo Scheuch**



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I believe that the most important thing in life is impatience and the pursuit of novelty, as it propels us forward and should be encouraged. With this optimism, we both look towards the future! Thank you!

**00:25:27 Michael Braungart**

You're welcome!