



# Infrastructure and the built environment

KPMG ESG Voices podcast

## Host

*Hello and welcome to KPMG's ESG Voices podcast, the series that takes a deep dive into the opportunities and challenges of ESG and what it means for businesses and communities. Through interviews with specialists from KPMG and beyond. Throughout the series, we will discuss a broad range of issues around sustainability and regeneration, aiming to support businesses and communities in creating an equitable and prosperous future for all.*

*Today's episode is one of a series of special episodes focusing on infrastructure and the built environment. We know that society cannot function without water transport, energy networks, nor can it function without the buildings we live and work in. We'll be bringing some outstanding specialists together to explore what sustainability and regeneration mean for infrastructure and what that means for us. Janet Greenwood, Global Lead for Sustainable Infrastructure, KPMG International will be leading a discussion with Jeff Merritt of the World Economic Forum and Chris Sainsbury, Partner, Infrastructure Advisory, KPMG in Canada.*

*Janet, over to you.*

## Janet Greenwood

Today's episode is all about the city. I'm delighted to say that I'm joined by two global specialists in this space. Jeff is head of the World Economic Forum's Center for Urban Transformation in San Francisco, leading a global team working to advance public private collaboration in more than 140 cities across the world.

Prior to joining the World Economic Forum, he served as New York City's first ever Director of Innovation. Chris is a partner with KPMG's Global Infrastructure Advisory, based in Vancouver in Canada. Chris leads KPMG's Smart Cities Practice and Mobility 2030 campaign, helping clients leverage technology and innovation as they move into tomorrow's changing world.

## Janet Greenwood

So, Jeff, turning to you first. Can you tell me a little bit about your work?

## Jeff Merritt

Our work is really about trying to address these complex global challenges that left on their own government, the private sector, civil society really can't achieve. Right? The areas where it takes driving collective action. How do we align the public

sector interests with the private sector incentives to really drive forward progress? And at the end of the day, cities are where the action is, right.

It's where 80 percent of the global economy and jobs are created. It's the, you know, the source of a lot of our challenges that we face today. But it's also, a testbed and, an incubation spot for all of these new solutions and new ways of thinking.

So that's where we focus.

## Janet Greenwood

And through the World Economic Forum, you are working globally? Tell me some of the range of challenges that you see. Because I can imagine the city challenges must be quite disparate and diverse.

## Jeff Merritt

They're diverse. But also, you know, there's a lot of common thread here, right? That at the end of the day, if your economy doesn't function right, if you can't actually create opportunities for shared prosperity, then everything else sort of goes downhill from there, right?

That you need to make sure that you have a thriving economy and its economy that's open and inclusive. But then that economy needs to sort of translate into also, you know, the stewardship of our environment, the also the, you know, and bringing out sort of the vibrancy that comes out through the supports of arts and culture.

And then obviously, last but certainly not least, the infrastructure, really, the built environment, the places that enable all of this to kind of come together and, you know, and you might be looking in places like Jakarta where the challenges around sort of this sinking of the cities and how are they facing a transformation to reconcile some of the maybe poor decisions of the past and in other areas issues have to do with sprawl and sort of intense congestion, and, in other places, it's societal issues driven by, inequalities that have persistently expanded over years, leading to, to homelessness and crime and the such.

But, you know, regardless of where you look, in the world, you know, one constant is that it's a world of increased challenges and complexity. And that's why public private collaboration is so critical.

## Janet Greenwood

Yes, I mean really evocative intro there. Thank you so much, Chris. You're working across British Columbia on a wide range of societal issues, helping cities transform.

How does that work impact the quality of life for constituents and sustainability more widely?

## Chris Sainsbury

Yeah. Thanks, Janet, and thanks for having me on today. So, I mean, first of all, cities are probably where, you know, most people have the most interaction with, different levels of government. And it's really where we feel things. So, over the last couple of years, we've seen a lot of change and evolving challenges Jeff's touched on quite a lot of those.

You know, we have aging infrastructure. How can we fund that? We have a lot of fiscal challenges. As we kind of move to kind of, a greener future. You know, the take up of EVs means also a drop in taxation on things like gas tax and on taxes on petrol. So how do we compensate it?

So we've got challenges on that front. We have the urbanization challenges and immigration, which is putting a strain on infrastructure from housing to access to healthcare services, education, etc. So you've got to think of it in a holistic manner. And there are competing priorities at the end of the day. And then just to, to add kind of an additional level of complexity is the, you know, the impact of climate change, that we're really beginning to feel, particularly here where I live, in British Columbia. The last couple of years, we've seen, you know, a lot of fires, droughts, a lot of, things becoming much more frequent as well than, than in the past, much more catastrophic. So, as we move forward into the future, my role is working with, you know, different cities around, Canada to help them make better decisions, to help them evolve and continue to transform. But fortunately, you know, there is a bright light at the end of the tunnel.

It's not all doom and gloom. There's great technology, great innovation. I think there's great opportunity to do more with less and to move forward effectively in the future.

## Janet Greenwood

And Chris, what does that look like when you work with those cities? You know, that's very evocative what you're saying there about the climate challenges that we're facing

So what can cities do?

## Chris Sainsbury

So cities are kind of at the forefront. And they need to make difficult decisions at the end of the day. Where do you prioritize. They've got limited money that they've got to manage effectively and steward. So I think making better decision making is one of the things I see being increasingly discussed around the table.

There's greater scrutiny. There is a need for more transparency. So one thing I've seen is, you know, a move towards data driven decision making. How do we make better, more informed decisions? How do we weigh up, competing priorities? And, how do we really decide and make both make those difficult decisions? And there's no easy way about it.

But we are seeing a kind of a shift in this thinking to really be able to leverage more data that we have to make better decisions as we move forward.

## Janet Greenwood

And to bring that to life a little bit, Chris, give me an example.

## Chris Sainsbury

Yeah. So, for a long time, a lot of cities have collected a lot of data, but they didn't really use it.

Well, they didn't know how to use it. So now we're seeing a real shift. Between gathering the data that was collected and then using new technologies, whether it's, artificial intelligence to, generative AI to sift through a lot of information, or to look at historic trends and scenario planning. So I'll give you an example, you know, with, with a lot of these emergencies, scenario planning is becoming increasingly important.

How can we make better decisions? How can we look at and learn from the past? And to do that manually would be a very difficult task. But now having access to tools like artificial intelligence, means that we can sift through a lot of these data as we can look at the trends, the correlations, we can help to plan out better decisions in the future.

## Janet Greenwood

And Jeff, is that something that you see echoed in the work that you do that need to prioritize resilience, the importance of data driven decision making and better governance?

## Jeff Merritt

Oh, absolutely. Without a doubt. I mean, I think as Chris highlighted, you know, we're living in a world where the norm is kind of whatever's unexpected, right? It's unpredictability.

I think that's what we're sort of living in and the only way in which you manage unpredictability is to have good situational awareness. Right? You have to be able to respond quickly. You need to be able to know in an instant, right if there's a wildfire threat growing, being able to sort of react to that and be able to make decisions based ideally, like Chris was saying on prior scenario planning and analysis, that's been done.

And if that can be automated as much as in advance to be quick and fast, then that's the difference between that, you know, wildfire that starts out small and is quickly contained. And one that wreaks havoc and, you know, can have the impacts like we saw in Los Angeles that are really devastating, not just for the current resident, but potentially for years to come.

Right, a really strong not only economic impact, environmental impact, social, you know, mental health impact. Right. And our ability to be able to respond quickly, to anticipate the unexpected is a key part of life today.

## Janet Greenwood

Is anyone getting it right Jeff?

## Jeff Merritt

Well, we're all making progress I think. And, I look back to, you know, five years ago when we were in, the heart of the Covid pandemic, right. And we saw more progress in terms of in the adoption of technologies, really agile and iterative thinking in that period than we've seen any time in recent history. And I think with every sort of challenge that we face, every disaster we get a little better at figuring out how not only to respond, but how to be more resilient.

## Janet Greenwood

And, Chris, the cities that you're working with, are they making progress?

## Chris Sainsbury

Yeah. So, I think the interesting thing is, different cities are facing slightly different challenges, have different contexts. But they're all going about it in their own ways and in pockets, we're seeing, you know, great levels, great ideas and innovations. And it doesn't have to be the, the big scale things like, you know, emergency response and things like that.

If you think as a resident, what are the things that are most important to me, keeping the streets safe, maybe making sure my rubbish gets collected, not being stuck in traffic all the time. Those are the things that typically people complain about the most. So smart waste collection is a great, very simple example, but, of where you can actually use data around putting sensors into your trash bins to see when's the optimal time to pick them up, then using data to optimize routes to pick them up.

This in itself can, you know, reduce, fuel emissions. It can, reduce, be more efficient with staff time. And that's just a very simple thing. And then if you think about other solutions from, you know, intelligent traffic management, having smarter traffic signals, I mean, let's face it, nobody loves to be stuck in traffic. And I think I saw a statistic somewhere that said, the average Canadian spends 176 hours a year in traffic.

So actually using data, and the analytics in real time, being able to have smarter traffic signals that make decisions that optimize routes and flows, ultimately, getting helping everybody get to where they need to get faster. And, and this has a big knock-on effect on the economy, actually that lost time it has a big impact that we often forget about.

## Janet Greenwood

Yes. And those, new initiatives to just make those marginal gains, whether it is in, rubbish collection or trash collection around the city, that, pollution reduction, all of these do absolutely add up when you're talking about cities with millions of people. And we know that the percentage of humans in cities and towns is predicted to double from about 40 percent at the moment to 80 percent by 2080.

And that means that the number of people living in cities will have quadrupled, from about 2.3 billion to around 9 billion. And not just the numbers of people in cities, but the numbers of larger cities will therefore grow. The number of cities of over 1 million people is currently about 275, and that's estimated to multiply by six to about 1600. So a massive shift in not only sort of where we live, but also how we live. And Jeff, thinking ahead, imagining that 2080 vision of, how that number of people are living together in cities, what does that look like to you as a positive, flourishing vision? What could we achieve?

## Jeff Merritt

It's always interesting when we are asked questions to think ahead to the future because our minds immediately might sort of default to some of the sort of futuristic sci fi movies that we've seen, right? And we all of a sudden are thinking about flying cars and all of this sort of very sort of utopian future. But it's also the line between utopian and dystopian in that sort of scenario is very thin.

And, I actually think that maybe it's the wrong way to look at it. You know, a minute ago. I was just talking about sort of the that sort of experience during the pandemic. And on one hand, yes, we saw a lot of advancement in terms of technological adoption. But it was also a very lonely time, very difficult time for most people because they lost the core of the human experience, which is sort of connection and interaction.

Right. And we came out of the pandemic. I think what you saw is a real rush to all of those sort of social activities. Right? We've seen record numbers of people attending concerts and doing outdoor activities, all those things they missed. And so, I do think when we look to the future, when we think about a flourishing future, ideally the the technology is in the background.

It's an enabler. It actually should not be the thing that we're imagining as visual it are. What we should be imagining is that sort of happiness and joy of when we're with friends and family and doing things out together, you know, embracing our culture and arts and community and so technology is really key and making that all possible.

Right? And that technology goes beyond digital technology. It's about thinking about new ways of doing things, new business models that are not extractive but actually regenerative. Right. And thinking about ways in which nature is not something that we're always trying to protect, but that we're leveraging as an asset. Right. So it's I think to me, a shift in our thinking is critical to enable that future we all want.

## Janet Greenwood

Jeff, I love that you have mentioned arts and culture, and I think that's critically important. And the mention that you give there about not being extractive, I think in terms of nature and our relationship with it, that extractive nature has been that extractive relationship has really been stretched, and pushed to the limit at the moment.

Chris, what's your vision of a flourishing future where we've got four times as many people in cities?

## Chris Sainsbury

Yeah. And I think Jeff made some really good points. This is about the people. This is not about technology. Technology to me is an enabler. Should be behind the scenes and as we actually move forward and, you know, during Covid there was a big digital transformation.

A lot of services went online. In many ways it was good for a lot of people. But we also have to be inclusive, like not everyone. Is great with smartphones, for example. Some people like that interaction. Some people like going down to the city hall to pay their bills or whatever it is. So I think we need we need to think about an equitable future for all.

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And recognizing, you know, people have different needs. So that's one component of it. I think being resilient and learning from past successes and, maybe failures, so around urban planning, you know, how can we be more efficient with land use? I don't think there's any one optimal way forward, but things like concepts like the 15 minute city come to mind where you got access, easy access to all the services you need.

Walkable, less reliance on cars and traffic, and then as we move into the future, I think to just point about thinking about what makes people happy. So access to culture, libraries, arts, having all those services available if you want them, having the full spectrum of housing, being resilient in many ways, not just against climate, but socially, economically, fiscally and being a diverse communities.

And I think, I think there's a lot of opportunity there. And I think a lot of cities are actually learning this. I think they recognize this getting there is another thing, but at least having that end goal, and North Star to head towards is a great start.

### **Janet Greenwood**

Absolutely. And you've both mentioned that relationship with nature, with, the environment that surrounds us.

And we know that cities, the footprint of cities is far greater than its physical footprint. It extends far greater into the, peri urban and rural ecosystems beyond. And we need to nurture and recognize those ecosystems and make sure that they are living and thriving in order for our cities to live and thrive. And indeed, there's an increasing emphasis on bringing nature into cities and making sure that we are not separate from nature and ecosystems.

But we are a thriving, flourishing part of those. And I wonder if either of you have seen cities which have done this well, where they are much more integrated with the natural environment, much more connected to it.

### **Jeff Merritt**

I'm happy to jump in here. I'll tell you, the reason I moved from New York to San Francisco was because I felt like when I was in New York and I was raising my twin daughters, I was in a concrete jungle, and I really was worried about my daughters growing up in a world where they didn't actually have that sort of appreciation for nature.

And when I came out here to San Francisco, to the Bay area, I was so impressed not only with sort of the history here and the way in which sort of, you know, the farmers had put their land in land trust to protect it, but sort of this really in the DNA of the city, an appreciation of nature as not a nice to have but a must have.

And you see that in the city's policies, the City of San Francisco as a nature action plan, right, that they they're not just looking at it as, as I said, as something that you kind of try and sprinkle in here, they're really thinking about it in an integrated, strategic way.

Right near my office in the Presidio of San Francisco, there was, you know, classic situation where you have a big highway kind of going through, a beautiful area. There's a project, called Tunnel Tops. And basically you, you cover the highway, right, with, with dirt and natural material. And that's one of the best parks in all not only San Francisco, I'd probably say in.

North America, just this incredible space where it connected, a national park with the Presidio to the bay by simply looking at how we could think differently with planning and design. And you see, you know, downtown sort of elevated parks like Salesforce Park that sort of has a lot of the same feel as you have in the High Line in New York, right, that these are not just cool things.

They are the heart of the city and where people interact and what we're proud of and what makes sort of living and working and in a city so rewarding and enjoyable.

### **Janet Greenwood**

And it's interesting you mentioned that that needs to connect pockets of nature, is something I think people are really awakening to in the UK. There's just been the launch of Rebuilding Nature, seeking to create those linear connections between pockets of nature which would otherwise have been bisected by the infrastructure we've built, the linear infrastructure, the roads, the railways that have cut communities of species, and separated them.

And, Chris, in terms of good examples that you've seen of cities that are thriving, that are connecting.

### **Chris Sainsbury**

Yeah. And maybe building on kind of that, that nature piece. So one thing I'm talking a lot about with different cities is actually natural assets. So, we are surrounded by natural assets, but we don't give them credit for what they do.

When we build something, they go on, you know, they go on the balance sheet effectively. But one thing we are looking at here in Canada, I know they're looking into is, how we can value natural assets and incorporate them into everything we do. I am doing an interesting piece of work shaping the community of what's called the Sunshine Coast.

It's a community, a fairly large community, probably about 50km from Vancouver where I live. And we're looking at how can we embrace the surroundings, the ecosystems, while serving the needs of future growth and migration and building the right places, having those services, integrated and embedded with nature. So I think that we're seeing great examples of more of this happening, and I think we'll continue to do so in the future.

But I think, embracing and realizing that nature is a real asset to us, and we've got to protect it in the future.

### **Janet Greenwood**

Yeah. Jeff, would you like to come in on that?

### **Jeff Merritt**

Yeah. I just want to add on there I think this is a really important point. Nature as an asset. Right. And it's one of our best assets when it comes to combating the challenges of climate change.

Right. If you want to really have a resilient coastline, you know, start with nature because nature has been doing this for millions of years, right. If you want to think about how to manage flood water, right, that the Earth is our greatest sort of sponge and tool and resource here. And trees are incredibly powerful purifiers. And so what I get really excited about is there's a number of projects over the last sort of decade or so that piloted in one city and I'm now seeing expanding globally.

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And so an example of this is, one of these sort of cool projects in New York. It's called The Billion Oyster Project, really sort of rebuilding the, the Bay, you know, the water in the coastline of New York has been so sort of polluted by industrial activities over hundreds of years now and bringing back the oysters, which are purifying the water, right.

And building a more thriving sort of aquatic ecosystem that's only going to sort of return dividends over time in terms of sort of its economy, the livelihood. They're putting a new swimming pool out in the East River of New York. Who would have thought? And now what you're seeing is these efforts sort of, scale like I learned here in San Francisco.

We also have an oyster restoration project in the bay. Right. And so, again, how do we think about nature as an asset? How do we learn from, thousands of years or millions of years of history? And we're seeing how not only sort of civilizations of leveraged nature, but then, how the planet has been able to be so resilient.

### **Janet Greenwood**

And Jeff, my own experience really echoes that. My degree was in civil engineering. It was all about concrete. It was all about structures. And now we're realizing that actually, you know, reed beds purify, water or waste water brilliantly, beautifully and bring loads of co-benefits at the same time. Chris, you mentioned that you've been looking into how to value them.

So how do we value them?

### **Chris Sainsbury**

I think there's different ways to value them and different ways to value everything we do. In the past, you know decisions have been made financially. So I can give you some examples. So just in terms of, like, the circular economy, you know, when we demolish buildings and then we build new ones, there's a lot of obviously a lot of waste material, but a lot of that used to just go to landfill.

So I was doing an interesting project, many years ago, where, one of the cities had, I guess a yard where they, they came in, they collected, you know, the demolished material, the waste and the recycled it. And they started reusing it. And this was a costly operation, but what we did is we went in and we looked at, we used a framework called the True Value Framework.

It's a KPMG framework that, we developed a couple of years ago looking at the social benefits, the environmental benefits. And when we dive deeper into it, just the savings in, you know, transporting, waste, out to landfills is one thing. Looking at the, you know, the reusability from a circular perspective of those materials is another thing.

And then when you add it up and also, you know, increasing that, we managed to increase the, I think the life of this landfill by about 15 years. So that's a simple example. But when you start thinking about the wider factors beyond just costs, there's real value there. And there's different ways to value it.

But, it's just one example that really jumps out to me. We need to think more than just, in dollar figures as we go forward, because there's more things that are important to the society than just that.

### **Janet Greenwood**

So what should we be doing in order to deliver a flourishing future that we all want? What are the steps that we should be taking? What's the call to action?

### **Jeff Merritt**

Well, you know, the good news is a lot of what we've been talking about, there's actually a word for it. And it's a German word. It sounds a little funny, but it's called Baukultur, and it essentially means building culture. And it's this sort of concept that, as you're designing, developing places, how do you sort of root them in, in culture, at the end of the day, this sort of authenticity and this holistic vision of how we balance all of these elements, we've just been talking about resilience and sustainability and beauty, and how do we actually design and build places that will stand the test of time. And there's a growing global community, involves organizations and over, I think, 170 countries around the world, including KPMG, who's a partner. And this is the Davos Baukultur alliance. And so, I think this is a place that we're seeing a lot of like minded public and private sector individuals come together to sort of not only define what good practice looks like, but say, how do we actually sort of double down on that?

Right? How can we make sure that we are focusing on quality, focusing on sort of building for the future? So, I invite anyone who's listening who's interested to get involved. You can, find out more online at Davos alliance.org

### **Janet Greenwood**

Nicely done there, Jeff. And yes, I love the fact that you brought in the word beauty.

That's not a word you hear in the business environment very often. And Chris, that need to create a more holistic environment in which we can thrive. What are the steps that you feel that we should be prioritizing?

### **Chris Sainsbury**

Yeah. So I think there's a there's an education piece. I think we need to stop thinking about the now.

We need to think about the future. You know, concepts like whole-life costing apply to certain project. But we need to think about how that applies to every decision we make now as it pertains to, the future for not just us, but for future generations. So I think an educational piece, to build and instill that culture that Jeff was talking about, how can we actually think ahead?

How can we think more holistically? How can we weigh up the different options better? And with the conversations, that are starting, definitely seeing that, there's still a lot more work to be done. And I think we need strong leadership, from, you know, leaders in this space to really kind of emphasize and shape the way we move forward.

But I think there's definitely positive signs. And as cities always have a thousand years, they continue to evolve and will continue to evolve going into the future.

## Janet Greenwood

Thank you Chris. That is a wonderful note on which to wrap up our chat. I think that and knowledge that I think we're all fervently agreeing on, that there is more to life than the dollars.

You know, we can't, we can't eat money. We do need nature to have flourishing and successful lives. And I think we've also landed on the point that smart cities are really, a useful tool for the future. Not necessarily goal in themselves, but a useful tool to underpin our future, flourishing existence. So with that, I would just like to say thank you both very much.

## Host

*Janet, Jeff and Chris, thank you for taking the time to join us today, you've given our listeners a lot to think about and we look forward to hearing more about what was discussed today in future podcasts. Join us again next time for more insights from ESG leaders and innovators. You can also find our latest insights covering a range of ESG topics by visiting [kpmg.com/ESG](https://kpmg.com/ESG).*

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