

Infrastructure for a better future

Infrastructure in a complex world

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Please note: the transcript has been edited to make reading as easy as possible.

Introduction: Welcome to the Te Waihangā 'Infrastructure for a Better Future' podcast. A series where we talk to experts both from here and overseas about the infrastructure challenges we are facing.

Geoff Cooper: All right, so we're here with David Skilling, who's the director of the Landfall Strategy Group, an advisory firm that provides advice and insights on global economic policy and political dynamics. He's here with us today. David lives in the Netherlands. He's a New Zealander by background, and amongst other things, was the founding chief executive of the New Zealand Institute.

Firstly, David, really great to have you with us. Thanks so much for taking the time. It's been some years since we last spoke, and a great deal has happened, I think, in the global economy since then, so very keen to have a chat with you and think about infrastructure in that context.

Perhaps just if I set the scene here and think about the framing for this discussion. We've recently gone through the process in New Zealand of putting together the first New Zealand Infrastructure Strategy. One of the striking things about bringing that document together was the commonalities of the experiences and challenges of other countries when thinking about infrastructure. That infrastructure services at their heart are really fundamentally about moving things around, either within the economy or between economies. That can be electrons, that can be water, it can be light, in the case of telecommunications, people or freight. And so, when we're thinking what is driving the need for moving things around, both in local economies and internationally, whether it's wind turbines, transportation networks, or schools, we can boil these things down into a few buckets.

Traditionally, we've often thought of infrastructure through a productivity lens. And I think more recently through a social inclusion lens, and workforce participation, population growth, of course, more people demand more infrastructure services, geographic trends – so that is, more recently, I think, big trends of urbanisation and more recently than that we've been seeing more growth in the regions, particularly in New Zealand. And we'll talk about a little bit about that, as well as demographic trends, right, where some countries are ageing more than others. And, of course, this big problem of getting to net-zero carbon and climate change both mitigation and adaptation. And against this, we have a changing macro-economic environment and a geopolitical environment that to my mind can either act as a headwind to infrastructure or a tailwind. And we've seen both of these in recent times. At the extreme, we can think about the Ukraine, where the stock of infrastructure is, in many ways, literally in decline as that has been targeted. And on the other, we have recent legislation, like the bipartisan infrastructure law in the United States and the \$738 billion Inflation Reduction Act, as well. And the other thing that comes to mind is some of the efforts in Europe to try and reduce consenting times of wind turbines down below 12 months to supercharge energy efficiency.

But on the whole, a recent report by the Global Infrastructure Hub that came out this week, and its infrastructure monitoring report shows that while private investment and infrastructure is back to pre-pandemic levels, it has actually been stagnant at about \$160 billion a year for about eight years running now. The big challenge remains in front of us if we want these objectives that we have from infrastructure, whether it's net-zero, carbon, housing affordability, poverty alleviation, or greater economic opportunity and productivity. I think that those to me are some of the connections between the geopolitics and the drivers of infrastructure. But let me bring you in here and ask you the question, what are the major international events and trends that you're seeing right now that are shaping some of these big infrastructure markets across the globe?

David Skilling: I think the way that I think about framing this is clearly there's a lot of big stuff happening at the moment from Ukraine to inflation, to US–China, on and on. I think the thing that ties all of these things together is that we are in the midst of what I call a regime change. We're shifting from one economic model to another. And that's been underway for some time, I think the end of last year, particularly around Russia's invasion of Ukraine, accelerated that.

But I think we're in the context of a conversation and infrastructure it's interesting that we're trying to have this conversation as we navigate our way into a new environment and to use your language of tailwinds and headwinds, clearly one headwind at the moment is higher interest rates, politics in a high-inflation environment, it's more costly to borrow capital, it's going to become more costly again, I think. There are some constraints, also concerns obviously about the pace of growth, at least over the next period of time, although I err on the side of optimism, but still there are some concerns in the economic space. But I think perversely perhaps, some of these political and geopolitical disruptions are adding a degree of intensity and urgency to debates around infrastructure.

If you think about the desire for strategic autonomy, for greater independence, be that energy or technology. Commonly we're seeing countries either deploy capital or plan to deploy capital – be that in a renewable space or nuclear in some cases – to strengthen their ability to be more independent from external forces. Now, clearly, that's more of a case for the larger countries, like the US or the EU as a whole but even for smaller countries we're seeing a much greater push to be less exposed to the decisions of other parties. This is one part of how do you compete in this more challenging environment is around autonomy, around independence. Energy is one component of it and an increasingly important one, in addition to the net-zero ambition and the conditions framing. This is simply: How do we make sure that we can maintain? I think, countries are also thinking: How do you navigate through shifting geography of global supply chains? How do we build resilience? How do we build connectivity in a way that can be sustained? And that speaks to issues like ports, airports, all that kind of connective tissue, if you like, that links economies to the world. And so, countries are really thinking hard about what infrastructure build is doing to ensure they are well serviced. Given all the additional

frictions and costs that are going to be imposed on global supply chains, how do we minimise that portion of cost that's associated with infrastructure, again such as ports and airports.

And I think, in general, we are seeing, I think, what I call return of the state. The expectations on government coming out of a pandemic, again, with the recent energy crisis in Europe, that more is expected of the government in terms of buffering against shocks, providing a measure of insurance, but also in the context of this heightened strategic competition. A sense that the government is going to have to invest more on a raft of dimensions be it core public services, but in terms of things like military and defense of infrastructure, transport, communications and so on. So, I think on a range of things we're seeing countries that approach the infrastructure conversation through a slightly different lens. It's not simply some lenses that you mentioned, social inclusion or productivity, they remain obviously very important. There's an additional level of intensity, clearly, the economic and social demands are not going away, but in addition to that, we've seen the emergence of almost a wartime footing – it's cold war, not hot war – but a cold-war type footing, where countries are using infrastructure as a way of positioning themselves to compete on a range of domains. So, I think that's true for small as well as large countries and has a message for New Zealand as well.

Geoff Cooper: Let's move to small economies now because I know that's an area that you focus on particularly globally. You often hear this idea that when the big economies sneeze small economies catch a cold. But your more recent commentary, I think, struck a more optimistic tone for the little guys. You've suggested that small, advanced economies could actually outperform larger economies or are outperforming larger economies. You've mentioned the example of green energy initiatives pursued by small economies around the North Sea, for instance, where are the infrastructure opportunities for small economies right now, do you think?

David Skilling: Well, let me just put a bit of context around that. I specialise in small, advanced economies of which New Zealand, obviously, is one. And if you look over multiple time horizons, be it through a pandemic, be it through a financial crisis, be it over the last few decades or over the last several decades. Small economies as a group consistently outperform

larger economies in terms of GDP growth, in terms of various other measures, social measures, or skills, innovation, a whole raft of measures, you see small economies consistently doing very well. I think that's partly because smaller economies have to, right. They are deeply exposed to what goes on outside their borders, they have to adapt and they have to adjust to change, they need to be distinctive and competitive. And so small economies are and have to be more agile and responsive and very, very focused on how they can compete in global markets.

I think that is a bit of a segue to thinking about infrastructure, because for many small economies infrastructure is a key component to how they present to the world and how they develop competitive advantage. And I think at the moment, there are a few vectors of change that we see playing out in infrastructure space. One, as you mentioned, just now is around renewables. So small economies, many of them are seeing big opportunity in renewable space, both in terms of using it to drive down emissions intensity and meet targets. But also a view that as you do that – as you lower the emissions intensity – you become a more competitive location for the firms for capital to come in. Your goods and services that are produced in a lower emissions way, become more competitive in global markets as consumer preferences shift. So, we're seeing in many cases, small economies front foot at that transition. Different countries obviously have different natural resource endowments, whether through hydro or wind or solar. We've seen many small countries move really quite quickly. And New Zealand obviously has done that in some manner as well, benefiting, of course, by decisions made a few decades back in terms of hydro, but nevertheless, New Zealand along with other small countries is moving quickly because they see a commercial and economic imperative around doing that.

And also it's striking that beyond that desire to secure competitive advantage that many small economies – Denmark is the most obvious of these are at the frontier for the last three, four decades, they've been doing very strong green technology positions. And if you look at the sectors in which Denmark or the Netherlands or others have positions of competitive advantage, often it's in the green space. For the Dutch, it's around a hydrogen and building a green-hydrogen economy. For the Danes, it's around the wind, use of wind, and also the technology.

And you're seeing similar debates playing out in Scotland and Ireland, as well. I think the small economies, they see infrastructure, the choices made around infrastructure, as deeply strategic, and as deeply connected to how they are going to build a competitive position. And you see, other forms of infrastructure I mentioned earlier, Singapore, ports and airports is building the largest automated port. It's building a fifth terminal at Changi. They are constantly thinking, OK in a world that is fragmenting, where supply chains are increasingly exposed to frictions, we need to be best in class and we need to be pushing the frontier out. So, many small economies are looking at infrastructure and saying this is not just for domestic purposes, this is absolutely central to push ourselves to succeed in what will be challenging global environment.

Geoff Cooper: Yeah, this is good news for a little country at the bottom of the world, right? I mean, we often talk about the tyranny of distance. It often comes up in policy conversations in New Zealand, where we reflect on how far away we are and how difficult it is to get here and all of these things. You've mentioned renewables. I mean, the other one that strikes me, of course, is in the new age of work from home where people can locate wherever they want now and dial into the global labour force. Is there an opportunity here for New Zealand to be competing for talent on the basis of its landscapes and amenities that it has here?

David Skilling: Yeah, but I think we overrate how distinctive our amenities are. I mean Switzerland is pretty nice.

Geoff Cooper: I'd attest to that. Yep.

David Skilling: Other places are pretty nice as well. So, yes, New Zealand is distinctive but we're not unique in all those amenities. And I think we talk a big game about how distinctive we are. I mean, I think tyranny of distance, frankly, does still matter. Despite communications technology, people do cluster, they want to be next to other smart people, time zones still matter. I was involved 10 to 15 years back and making the case for fibre to the home, which was a precursor to getting the ultra-fast broadband network. The whole case for doing that was that given where growth was coming from, and given New Zealand's physical location, it's critically important that we build our communications infrastructure, both domestically – fibre to the home – but also get the cables across oceans to make sure

that New Zealand can participate in that kind of emerging set of growth activity. So, that's great. New Zealand has actually done a very, very good job of doing that. But to really leverage that infrastructure, you need to bundle a whole bunch of other stuff around it – research, innovation, talent, skills, and figuring out which sectors you're really going to double down on in order to ensure that you can leverage extract maximum value from infrastructure investments.

Going forward, of course, nothing sleeps, right. So now it's 5G, the Internet of Things. What's the next generation of infrastructure that we need to be investing in? Make sure that New Zealand has a chance of overcoming that being a small, distant economy. None of this is fatal but the reality is being small and physically distant is a real headwind and does require significant investment. I mentioned earlier that small economies do outcompete. That's strictly true, small economies do very well. But it's hard and the distribution of outcomes is wide. Not all small economies do well. Small economies that do well are those that invest, that have a very clear sense of strategic intent, that know what they want to do – including around infrastructure – and operate with a sense of strategic coherence.

I think that the issue for New Zealand is how do we take that forward-looking, strategic point of view, where we've got a clear sense of what it is we actually want to do. Now we're going to compete, and then invest aggressively behind that. New Zealand, I think, does have a bunch of, in principle, benefits that we could leverage a lot better than we are at the moment. But we've got to do that, I think, quite deliberately and quite aggressively. But you're right, in a post-COVID world, working from home, distance matters less for some activities, so there is an opportunity. But as with many of these things, we're not the only ones who can see this. In other countries, other firms are moving very quickly.

Geoff Cooper: That leads into my next question I suppose, which is really thinking more about within country dynamics and patterns of location. And you look around the world and the post-pandemic space and you see cities that are, I think, starting to look a little bit different, right. Where the last 20 years we were talking about urbanisation, we were talking about central cities. Now, you've got office buildings in San Francisco that are about 40% of pre-pandemic occupancy. And I think a question that's being posed, certainly amongst urban economists: Is this a

shock where we'll go back to previous patterns? Or is this the sort of thing that's going to change the nature of where people live, work and play in the cities? And the infrastructure application of that should stare us right in the face, right. Which is, are we still trying to get people into the central city? Or is there something else at play here?

David Skilling: It's difficult as obviously the pandemic is fairly recent history. It's difficult to be completely definitive. But you're right, around the world we're seeing a fairly consistent patterns of behaviour, where mobility into cities is reduced, public transport use is down, office occupancy is 40% to 50% down on pre-pandemic levels, and that seems to be somewhat sticky. And I think, just in the chief executives, they seem somewhat resigned to the fact that people are not coming back to the office five days a week. It might be two, three, or four days a week. So, it seems to me that those behaviours are global. They seem to be fairly universal across sectors, at least white-collar sectors. Obviously, if you work on the factory floor this is less true. But for office workers or people who work for the most part in cities, things do seem to be different and consistently so.

I think there is going to be a shift clearly in infrastructure demands. So, if you're a provider of public transport and people are coming in three days a week, not five days a week, that does huge damage to your economics. If you're in commercial real estate, it does huge damage to your bottom line as well. And so, you have discussions around can you swap out commercial real estate and convert that into homes? So, get more people living in the CBD, or do in fact people want to live with greenery, and open spaces, and telecommute? I think a lot of these debates are still live. It does, as you say, have enormous implications for where and how much you invest in various forms of infrastructure, be that accommodation, be that transport, be that energy. I don't think it's completely shaken down yet. But again, of all the COVID-19 thematics, this location vector seems to be the most enduring.

You see the share price of Zoom go up and down and Peloton go up and down. There's something about location that seems stickier. People's preferences have really shifted. And I think for infrastructure providers and funders, there are a really important set of issues, particularly for a country like New Zealand, that is so physically spread out. You can work from Hamilton and Tauranga come into Auckland once every

couple of weeks. Why not? I don't think we know exactly what it's going to look like. Which makes it tricky, because you've got to make long-term investments, 20 to 30 years, and you don't really know exactly what that demand is going to be like.

These are issues that countries around the world have struggled with. I think for small countries, I guess the caveat to this is that it turns out in small countries the large city is disproportionately important. You look across the Nordics – Helsinki, Stockholm, Copenhagen, Oslo, etc – and Dublin. You see the large city being a magnet for talent, for capital, it's often where the major airport and kind of international connective infrastructure is. In a sense, for small countries there are some risks with running down your large city because you become less attractive, less competitive for those mobile factors of production and other kind of internationally oriented activities.

I think for small countries getting that balance right between good domestic economic geography and the international or outwardly facing economic geography is really, really important. So many smaller countries are thinking about: Do we need to rebalance? Are we too reliant on our big city? Do we need to have a more regional approach? Which is happening in New Zealand and obviously similar debates in the Nordics, in Ireland and elsewhere, but I think there's a limit to how far you can push that because as I said, if your large city becomes subscale that has a significant spillover effect in terms of nationwide productivity.

Geoff Cooper: Interesting. One of the discussions around here really on the back of that is thinking about what is our regulatory flexibility to let those things happen, right? If you're not sure where people are going to go or firms are going to go, we've got in place district plans that have put forward where people can go, where we expect them to go. And all of a sudden, with a big shock, you're rethinking, 'Well, does this still make sense?' And so that brings into play these questions of how much flexibility do we have within our land-use rules or district planning that allow some of these decisions to actually take place?

So, you mentioned there about competitiveness and particularly attracting talent. And that's one that really resonates with me, I think New Zealand lives and breathes on its ability to attract highly talented individuals here. And we're currently facing quite significant workforce

shortages, that limit in many ways, our capacity and capability across all stages of infrastructure planning and delivery. And we're looking to ramp up, I think, infrastructure in unison with so many other countries, right. Just as we're putting forward what we think are quite substantial and large infrastructure pipelines that are in the order of \$70 billion. Australia's over \$300 billion, the US is far, far larger than that, of course. And one US study that I looked at yesterday said that the energy workforce will need to expand by some 300% out to 2050. So, we're in fierce competition for the talent that we're going to need if we want to achieve some of these national objectives around housing affordability and net-zero carbon. I know you've written about New Zealand's productivity, performance and immigration policy previously, I'd be curious just to hear a little bit from you about how New Zealand can compete for talent with the rest of the world and what policy settings we might need to think about?

David Skilling: Well, at one level, New Zealand has historically competed very well. And I might say too well, right. We've had very, very strong levels, well certainly for the 10 to 15 years prior to the pandemic. Obviously, it's low now and certainly we don't know how quickly that will come back. But New Zealand's been pretty open, English-speaking, nice place to live. We've had no great difficulty bringing in people. There is an issue about whether we're bringing the right people with the right skills who could work in the right sectors. But I think in the context of a slightly more focused conversation, as you're suggesting: How do you get people to come in and contribute to construction, housing, building roads, building bridges, those sorts of things? Given other countries are also looking to do the same and to attract that same mobile talent. I think the answer is, it's going to be difficult. New Zealand in general offers lower wages, lower productivity, lower-wage economy than Australia, they are a bit higher than us and certainly than other countries. We do have some offsets, of course, in terms of, we're a nice place to come – my earlier comments notwithstanding – we're a nice place to come. We're also an expensive place to come from getting a house or renting a house, it's super, super expensive. I think this is at best going to be a long term – we're not going to have a huge influx of people coming and saying, 'we want to help you build stuff'. We're a rung or two down on the food chain below Australia and below Singapore and the like.

I think we need to get creative and joined up and very thoughtful around the process. So, one how do we think about providing training in schools to our domestic population, right? So yes, labour markets are tight. There's also a number of people that could be trained in these areas, our trades and vocational education in New Zealand is not world class, it is getting better, but it's not where it should be. Thinking hard about what are the different options for securing that pool of talent with the appropriate skills for infrastructure requirements? Looking at home I think is really important. Providing the pathway to contribute. Obviously, aggressively hunting that talent internationally, as we are, I'm sure.

If we're going for the 'we want to go on the global labour market and bring people in', the reality is that's going to be difficult for exactly the reasons you suggest, which is everybody is doing this. Everyone has big infrastructure demands. So, I think we need to be very calibrated in terms of the pace, the sequencing, and also to the extent that we can just be as thoughtful and aggressive as we can around using new technologies, new capital to economise on labour. So, Singapore is investing heavily in technologies like 3D printing, automation, new tunnelling technologies and the like exactly because it's finding it difficult to attract labour that it needs for its very aggressive build out. So again, it's a sort of thing that New Zealand should be investigating, it's certainly not a silver bullet. But I think the reality is this is going to be difficult in construction, as it is, frankly, across most sectors of the economy, post-pandemic labour markets the world over are really, really tight. And I think New Zealand firms across many sectors are going to find it much more difficult than pre-COVID to secure the talent and the people they need. And construction is unfortunately no exception to that.

Geoff Cooper: One of the things you hear from industry participants is the certainty of the pipeline, right? If only we knew what it was over an either medium or long term, what it is that you want to build, where and when, we would be prepared to invest in the workforce to make it all happen. But obviously, there are swings and roundabouts in terms of which projects we're going to do, when we're going to do them, and where we're going to do them. Are there other places where you think have had that been able to answer this question of creating pipeline certainty for the industry so that they can invest more fully in the workforce?

David Skilling: Well, yes, is the answer. I mean, part of this does revolve around their population policy as well particularly for small countries, getting a sense of the growth rate is it half a percent, two percent, negative? So, having a sense of what the underlying population growth is going to be gives you a sense of what demand is going to be like for schools, for roads, for energy, and the like. Singapore has planning parameters around population growth. There is variation, it's not second decimal place stuff, but it gives a sense that enables them to say, look, here's what we're going to do next 10 or 30 years' time. New Zealand's population policy has been somewhat less orchestrated, shall we say than that? It's a bit cyclical, which does make things more difficult. And I've also seen it, and I otherwise agree with you in being able to communicate with credibility, that here is a timing for these key infrastructure projects for the next 5, 10, 15 years' time. And we're going to do this in a sequencing way, it's not going to be five years of feast, followed by five years of famine. That does give people confidence and the ability to invest in capital and training, and all that good stuff.

Geoff Cooper: We've covered a number of issues here, all the way from geopolitical events right through to more micro-urban events and pipeline certainty, and workforce. I have thoroughly enjoyed this conversation. So, thank you so much for taking the time. And we'll bid you farewell, and I hope we crossed paths much sooner than it has been over the last few years, David, but all the very best. And we'll see you again soon.

David Skilling: Great, thanks very much.

Narrator: Thanks for listening to Infrastructure for a Better Future. To find out more about the infrastructure challenges we are facing visit www.strategy.tewaihang.govt.nz.