

Decarbonisation in Health - Transcript

Intro: Welcome to the People and Place podcast. The challenging health, environmental and economic conditions that we've faced in 2020 has demonstrated that now more than ever, we must be thinking differently about the way we design and maintain the built environment to ensure that our communities and our natural environment can thrive into the future.

Over the next few weeks, we will be diving into some discussions with our own experts, clients and key industry players to talk about the challenges and opportunities presented to our industry, which can help us to deliver resilient healthcare facilities that are adaptable to the risks presented in an ever-changing world.

Jonathon: Thank you all for tuning in. I'm Jonathan Ramajoo, WSP's National Healthcare Lead, and I'll be your host today. Over the coming weeks, we'll explore some of the key factors in delivering resilient healthcare facilities and recognizing the significant role that carbon neutrality will play in the development of the next generation of healthcare buildings.

Jonathan Ramajoo: We'd like to kick off the series by discussing what de-carbonization means for the healthcare industry. But firstly, I'd like to begin by acknowledging the traditional owners of the land on which we meet today. And I would also like to pay my respects to elders past and present. Today, I'm joined by Sean Holmes, WSP's Associate of Sustainability.

Sean: Hi everyone.

Jonathon: Sebastien Loewenstein Associate Director of Sustainability for the Clean Energy Finance Corporation.

Seb: Hi everyone.

Jonathon: And Robert Sims, Dexus's Senior Manager of Group Sustainability and Energy.

Rob: Hi everyone, it's great to be here.

Jonathon: So, before we dive into the discussion, I'd like to firstly, set the scene. We know that healthcare buildings are critical for the health and wellbeing of our communities. Yet they are also some of the highest energy consumers in the built environment.

As all industries begin to develop de-carbonization strategies, how can we then, as the construction industry, help one of our community's most critical sectors to transition to carbon neutral. And how do we ensure that these critical pieces of infrastructure can continue to operate safely while achieving the net zero commitment set

by local governments to meet the Paris agreement. While it can be helpful to look abroad for ideas, we need solutions that can respond to the unique challenges that Australia faces.

And today we hope to cover a number of topics that outline some of these challenges and how we might be able to tackle them.

The CEFC is a government body, which has a unique role of increasing investment in Australia's transition to lower emissions. With over \$10 billion to invest on behalf of the Australian government, one of the key focuses of the CEFC is to influence the de-carbonization of developments and sectors through setting benchmarks on enabling activities of de-carbonization across all aspects of the value chain.

So Seb, I think a great place to kick us off would be to share what are the components of de-carbonization that the CEFC is focusing on.

Seb: Yeah, thanks Jono. One of the first pieces is around accountability of emissions in the value chain, which is very important for companies to understand and manage in relation to their carbon liabilities and their climate value and risk and their ability to drive change.

Scope three for asset owners and managers can be very burdensome, acknowledging that scope three emissions are someone else's scope one and two. Thus, why transparency of scope three is key to de-carbonization. As such, it's important for developers and owners to take ownership of downstream emissions within the value chain and provide enabling activities and create demand to help the supply chain to decarbonize.

Jonathon: Thanks for that Seb. I want to bring, uhh, Rob into the discussion now, but before I do for those unfamiliar with Dexus, it's one of Australia's largest investment development and real estate companies. Commendably Dexus has set the carbon emission target of achieving a net zero position across all of its managed property portfolio by 2030. This target will comprise of all emission sources within its operational control, including upstream and downstream emissions.

Now I understand that Dexus seeks funding from bodies, like the CEFC for its developments. What are some of the tools or criteria that you are using to measure the carbon emissions of your properties and to also create that type of accountability or transparency that Seb just mentioned before.

Rob: Well, we certainly put a high emphasis on establishing the appropriate rigor and accountability for our sustainability metrics. At a property level, we leverage Greenstar and LEED for our new builds.

And within our clean energy policy it mandates targets to deliver both of those rating tools, targeting five-star Greenstar design and as built or an equivalent rating of LEED gold. The policy also includes design efficiency targets that are specific to energy and greenhouse gas emissions reductions.

And that is to ensure that we target the most meaningful elements within the design. Within those tools it's important that we do target our efforts in those credits that we believe are going to deliver the, the most value over time.

In operations, we rate our properties using Greenstar performance. Once again, we have that emphasis on achieving high levels of performance in energy and greenhouse gas reduction. And in this regard, carbon intensity is a key metric of ours.

From a corporate perspective, we've set a goal to achieve net zero emissions by 2030 across our managed portfolio. We've since certified this as a science-based target that's aligned to one and a half degree warming outcome. The most ambitious target that's available by the science-based targets initiative and puts us firmly in line with delivering on the ambitions of the Paris agreement.

Jonathon: Thanks Rob that sounds great. Sean, in your role, you're helping developers, investors, and the like to develop their sustainability pathway. As Rob just explained, Greenstar seems like the most appropriate tool for achieving these targets. But in your opinion, what's the best approach for achieving these carbon outcomes holistically?

Sean: Thanks, Jonathan. So, I guess the first thing to understand is the role that any, certification plays on project. And I guess, as Seb and Rob both talked to, there's a lot of focus on greenhouse gas emissions and energy efficiency in the healthcare sector.

And it's important, I guess, to first establish, what the outcome is that a financier or a developer or an owner wants to achieve on their project. And then, kind of the second step in the process is, adopting a rating tool, and Greenstar is a very good example, to verify and assure that the outcomes that have been targeted on the project have been achieved.

As Rob spoke about, Greenstar is certainly the most market accepted and recognized rating tool in Australia. It has rating tools which can address anything from the planning of a precinct, a new health precinct, through to design and as built for an individual building. And then also looking at the operational phase of any healthcare project.

So, there are tools and mechanisms there to verify a project through each stage of its life cycle.

Jonathon: Thanks, Sean. Now, umm, a question for you all. In your opinion, what do you see as the utopian solution for de-carbonization of the built environment? If there were no limits, what would be the ideal landscape for you?

Seb: I guess like from our view, you know, operational emissions, we were setting targets three years ago, which seemed ambitious. It is much more commonplace to see fully zero commitments, as much as possible onsite generation with PV. We're entering into a new age of, seeking to demystify and also take heed of the opportunity for fully electric buildings. And there's some new technologies that are coming up with heat pumps and the like, but really transitioning that domestic hot water service and the Southern States heating as well, in most instances, to an electric source and moving away from gas as the common boiler solution.

And the other one there would be, of course, really ambitious embodied carbon targets. This is an area we are emerging in. But what we're trying to do is, take on the next level of opportunity within the built environment and the key ones are electrification and embodied carbon alongside with distributed energy resources as well.

Rob: Look in my view, it's quite straightforward. I see a future with, highly efficient buildings powered by renewables and supported by circular thinking regarding their development and operation.

In a nutshell, buildings that care for the environment that take what they need to when they, when they do need it and can potentially give back, in a circular way. And buildings that can share resources, whether it's consumable through the building, whether it's the energy sources, and production that they can deliver to their surrounds and how they integrate with the occupants in the building.

Sean: So, for me, I think, a utopian solution, we need to be thinking quite big around what the role of healthcare is now and into the future.

And I guess it's pretty clear and communicated that from an environmental perspective and from a financial perspective, when we're emitting carbon, we're essentially borrowing from future generations. And I guess the big thinking that I have there is, healthcare buildings will be a contributor to greenhouse gas emissions, and they will have some contribution towards climate change.

So, from a healthcare and the health of society perspective, we need to make sure that we're delivering sustainable projects so that we're not compromising the health of future generations when they are subject to climate events. While we are certainly going to be talking about electrification and renewables a lot, when we're talking about genuine and deep de-carbonization. For me, a utopian solution essentially delivers a quadruple bottom line outcome for any project and its quadruple bottom line looking at the whole of life impact of any project.

So, we need to balance impacts across the environment, social, economic, and governance aspects of any project. And realistically, we need to, deliver positively across all of those different categories. And there are projects which do do that today. They aren't necessarily in the healthcare sector, but it's possible. And I think that's what the end goal should look like for the healthcare sector.

Jonathon: So, um, Rob, we've spoken about some of the, I guess the balancing act that we have to play with all the competing sustainability criteria for a project. If we look more towards the commercial aspect and the, I guess from the eyes of your investors, from your perspective, how difficult is it to balance commercial viability versus the sustainable aspirations?

Rob: Our approach to managing property is to deliver quality, sustainable returns for investors. And that involves seizing opportunities as well as managing risks. And like all things, sustainability operations falls into both of those categories. And so it's interesting journey as we walk through new designs or retrofit opportunities, or even operational efficiencies, being able to present those, in such a way to stakeholders that

aren't necessarily as familiar with, the sustainability, language and, what those, key terms and, the impacts mean.

We want to make sure that we maintain a commercial perspective so that we are delivering what we would call a, a balanced outcome or an integrated outcome.

And as an example of that Dexus itself has transitioned to integrated reporting, over the last 18 months. And that journey, has allowed us to take our internal stakeholders through the integrated reporting process to understand the key inputs into our business.

And it's not just money, It's not just capital. It involves our people, our properties, our relationships. And then link that to our key value outcomes, of which our sustainability drivers have formed a key part of that.

And people now have a better understanding and can understand that just achieving a financial benefit or minimizing a financial risk is not the sole outcome that can be obtained through a project.

And I'll give you two healthcare examples relating to the North Shore Health Hub. During the design process, in collaboration with the CEFC, we advocated to have solar PV installed in the Health Hub, in the roof.

The design originally didn't include solar and through advocacy around environment, and also looking at the commercial impacts in terms of reduced energy costs, we're able to secure 160 kilowatts of solar PV that will generate around 250 megawatts of energy each year. Saving the building around 30% of its electricity costs.

The second key opportunity is we also advocated for an embedded network to go into the North Shore Health Hub. And the reason we did that was certainly there's a commercial outcome that can be attained by us helping manage the receipt and on selling of energy to our customers. However, we also have sold that opportunity on the fact that we are able now to connect the North Shore Health Hub to our renewable energy supply agreement, which we've negotiated a key supplier here in New South Wales. And through that agreement, we're going to be delivering 50% of our energy requirements, the grid source energy requirements, via renewable wind and solar sources and that's going to help further reduce carbon emissions across both the property and, and across our broader New South Wales portfolio.

Jonathon: Thanks, Rob some great market leadership there from you guys. So, um, it's, it seems, like we know what your type you will look like. But how long is it going to take to get there? The Australian States have committed to net zero by 2050 to meet the Paris agreement, yet on a broad scale we haven't seen a lot of movement industry-wide, which means that there's still a lot to solve in a short period of time. 30 years isn't that far. Particularly when we consider the extended lifecycle of assets such as hospitals. We really do need to be focusing on how hospitals are designed today so that they're ready for what they'll need to operate in 2050. Rob it's great to see Dexus's target of 2030 and the sustainability approach that's driven by delivering long-term values. What are some of the other market drivers influencing Dexus and its approach to sustainability?

Rob: Well, aside from our own aspirations, we see ourselves being driven by our investors and by our customers. We've seen in the public discourse over the last 18 months, the emergence of a new generation that are calling for aggressive action on climate.

Because they are very aware, they're very forward-thinking people, that they're going to be inheritors of the world in 20 to 30 years, if not now.

Moreso, we've seen a lot of investor demand over the last two to three years, calling for increased ambition around performance. Supported by the release of the task force for climate related financial disclosures framework, which is advocating for businesses to not only disclose where their climate related risks are but also what their strategies, their programs in place and also their metrics and targets for responding.

Jonathon: It's great to see Dexu really responding to some of the aspirations of their investors. That's great. Sean, Seb, touched on how the GBCA are helping to lead the way with this transition. Could you share with us some of those initiatives and some of the other market drivers that you see as being key to enforcing change in the industry?

Sean: Yeah, sure. So, as we mentioned earlier, every state and territory in Australia has a target to be net zero by at least 2050. I think, the property sector, including healthcare, has an advantage because we know what our future's going to look like early. And there are certainly sectors of the economy which don't have all of the answers to being net zero at this point in time.

So, we're in a unique position where we can lead, and we can achieve net zero earlier than other sectors of the economy.

In terms of Green star, the tool is heading in a really exciting, direction. So, we have our four-star, five star and six-star rating system remaining. And it's in line with a carbon positive road map, which was released and that is that under this new tool every building that wants to achieve world leadership and a six-star rating must be all electric and must be a hundred percent powered by renewables.

And that's from day one of this rating tool. So, no need to worry about 2050, you can do that right now.

And then, at the other end of the spectrum, when we're looking at a four-star rating, typically in the past there hasn't been a huge demand for four star rated assets. I think that's something that, which will change with this new version of the tool. So, there's been a clear direction from the GBCA to make four-star ratings and Greenstar ratings, in general, more efficient to deliver. And, we're really, I guess, trying to tap into more of the mass market with that level of rating and to try and drive incremental change across a much bigger market sector there.

So, we might not be getting the really sexy net zero project at that scale, but we're capturing a huge sector of the market and we're driving change across that. Which is also really exciting in terms of greenhouse gas emission reductions. There should be some really big impacts, which can be delivered there.

Jonathon: Just a question for everyone here. We've talked about some of the market forces influenced at an investment level. What other market forces would you like to see introduced, say at a government level, to bring the industry up to the benchmark that you guys are setting?

Rob: It's a difficult question. I think in certifications, yeah, there's been a lot of discussion recently about the expansion of the NABERS program across other sectors. So, looking to make mandatory ratings across, shopping centers, for example. I would argue that given the potential absence of federal climate policy over the last few years I would say state government and business certainly has stepped up to the plate. Property, I would say, is a leading example of that. So, I think, there's a lot of potential for government to continue to collaborate with industry.

Sean: I think that there's two distinct ways that this can be looked at. So, I think, it's very clear that the private sector and private healthcare providers have more of a dynamic view on sustainability and can more easily look at their projects from a whole of life perspective.

When we look at government projects, it's very common for there to be a delivery agency, which is allocated a siloed amount of money to, you know, deliver a health care facility with however many beds or whatever the metric is.

So, I think, government projects have less of an ability to invest in efficiency and other sustainability initiatives, which would bring whole of life cost savings as well as carbon savings to any project.

Rob: I think it's a very good point. I think we've worked led some valuable lessons, and had some great outcomes by, making sure we incorporate the right stakeholders through each stage of the development process.

And we found that certainly getting sustainability involved quite early in a new building design helps us advocate for some of these longer term strategic initiatives to be factored in early, which then helps inform the design, minimize , any need for change further on, and hopefully delivers a more sustainable and productive property for those occupants.

Jonathon: Really sounds like that partnership piece is key.

I wanted to maybe shift the conversation now towards energy and then the infrastructure that we have available to us. We know that one of the key factors of de-carbonization is the energy supply itself. The process of transitioning to renewable energy is complex and presents a number of challenges.

I feel that the healthcare sector will present some of the biggest challenges given that hospitals are critical bits of infrastructure running 24/7, where people's lives are literally at stake. So, there's no wiggle room in the reliability of the power that's provided. So, whether the grid, onsite renewables, or a combination of both are used in hospitals, we need to apply a robust risk profile on its reliability.

How do you see the current state of our grid? How dirty is it currently and, realistically, how clean will it be in the next 10, 10 or 20 years?

Sean: So certainly, Victoria and New South Wales are heavily reliant on coal power. So, they're certainly dirty by most measures. Queensland is a step ahead of New South Wales and Victoria. And then we have South Australia and Tasmania that are really leading the pack.

Tasmania have an action plan in place now to hit 200% renewables by 2040. So, they're well and truly leading, and South Australia is as well. So, that's kind of where the grid sits overall.

And, I think there has been a lot of frustration from property owners and organizations about the clarity on which we will be decarbonizing this grid. To the point where industry has essentially, figured out, regulatory work arounds to try and get offsite, renewable energy to their properties. And that's through power purchase agreements and other renewable energy supply agreements.

So, we've talked a lot about electrification to date and the main reason for electrification is that we're enabling a hundred percent renewable electricity supply. So, these properties now, or in the near future, we don't have an investment in gas, which, you know, is going to last 10, 20, 30 years down the track.

So, you can power your building by a combination of onsite renewables and offsite renewables. Right now, you don't need to wait for the grid to go completely 100% renewable.

Jonathon: Thanks, Sean. In terms of achieving a clean energy build, and it seems like there's, there's a couple of options there that you've mentioned, imposing a power purchase agreement or offsets on the grid to, I guess, simulate a cleaner grid until it actually gets there, rely on a number of onsite renewables, which, you know, in a healthcare setting, can be risky for our reliability of power with the technology we have available, or continue to use, onsite fossil fuels, such as gas, which at the moment, is a lower carbon option to the grid. But that's only a short-term use for us. What do you see is the most robust solution for critical infrastructure like a hospital? Is it a combination of these or is there one that's the best fit for purpose?

Sean: There is no doubt that the health care sector has a unique need for redundancy and resilience, in terms of power supply. More pronounced than most other building types that we would look at.

Certainly, offsite renewables would drastically reduce greenhouse gas emissions, for any healthcare project. And it doesn't need, necessarily, a change in the technical design of any new or existing asset. It can be a procurement decision which is made.

So, in terms of barriers, it's a business case and looking at costs rather than any particular technical or engineering response to that issue.

Certainly, looking at onsite renewables, absolutely rooftop solar can give you an incredible bang for your buck. The cost of solar has just come down so drastically that it provides really, really good financial returns. In terms of looking at the risk and reliability of power, I don't see that the connection that any hospital or healthcare facility would have with the grid would change based on onsite solar initiatives. Certainly, there

needs to be redundancy remaining and built into any asset and it's likely to become even more critical in the future.

So, it's not something that I think we will be willing to try and reduce at this stage by onsite energy storage systems. That may change in the future, but not at this point in time. And also, backup generation at this point in time, I would say, is likely to stay as is currently, until there is a robust cost effective alternative available.

Rob: As an example, when we were discussing the proposed emergency supply for Calvary Adelaide, we were proposing, the consideration of batteries. But given that they ultimately are powered or charged from the grid, it was not seen as a, a long-term solution if the site lost power. But batteries do have a role to play, certainly to help level demand. I imagine all the solar on the rooftop is going to be absorbed through daily operations, but there is opportunity for a battery to help continue to smooth demand, as well as perhaps interacting with electric vehicles and electric transport such as ambulances as they emerge.

So definitely there's a live conversation there about batteries. But I do agree that in a lifesaving environment, the business case doesn't quite stack up at this stage.

Jonathon: I think there's a lot of interesting technology out there that can help us with peak load demand shifting like batteries or thermal storage and I think they at least form part of the puzzle that also act as the redundant source of energy for a building. But I think you're right, Sean. I don't think we can completely eliminate fossil fuels with standby generators and the like, for now.

Sean: Not yet.

Rob: Aside from diesel generators, there's still opportunities to electrify and to power from renewables. I've given the examples earlier about the health hub, having solar put on the roof and also now being connected to our offsite renewable energy supply agreement.

Another example is our GP Plus health care center in the north of Adelaide, which is currently powered by gas fired air conditioning systems, gas fired turbines. And we are looking at opportunities to switch those over to electric units, supported by another rooftop PV system. And so not only can we take away the direct emissions that we would emit through the gas, but we're also able to deliver a long-term economic benefit to that property. Given that the solar will pay back over time and, you know, that infrastructure will be on the roof for much longer.

Jonathon: Thanks, Rob today you've shared with us some interesting insight into the North Shore health hub that Dexu are working on. What's in store for you next?

Rob: Well, across health care, I mean, obviously we're looking forward to the North Shore health hub reaching completion next year and welcoming its first tenants and visitors and being, you know, a critical, site within the North shore health care precinct.

We spent the last couple of years resetting our direction with regards to climate and carbon reduction. And next steps for us involves accelerating that and accelerating the action towards those goals.

It's important that these long-term objectives we've set such as our 2030, net zero emissions goal and our science-based target aren't left for the next generation. And so, we're very conscious of continuing to drive incremental performance year on year by activating our improvement programs across our office portfolios, collaborating with our owners and operators across our healthcare facilities to embed continuous improvement sustainability practices.

Jonathon: So, in terms of what should be the priority for taking us on our next step towards de-carbonization? Seb, can you share with us what the CEFC is targeting next?

Seb: Yeah, sure. So probably the key bit to understand from our perspective is that we will be seeking to accelerate progress on commitments and sustainability targets. And we will continuously be setting more ambitious targets as the lifecycle and adoption of decarbonizing approaches is more fully embedded in practices.

You know, in terms of accelerating that progress on commitments, we see that net zero commitments become very much mainstream. Where we had in 2017 only AMP and Investor commit towards net zero targets we've seen, you know, over a dozen institutional investors now committed.

So net zero becoming mainstream, we're going to start writing contracts on fully electrified buildings, being even more energy efficient than our previous generation buildings and work with industry partners and institutional investors. And really working together to create, you know, demand to decarbonize the scope three emissions in the value chain, both from the tenant's perspective as a user, but also at the construction side.

We're also looking at doing further storage and dispatchable power, both with connected and integrated systems to optimize efficiency and maximize outcome.

Jonathon: Sean, with this in mind, with what Seb's just outlined, what do you see the focus for consultants like us and where we can help clients achieve this?

Sean: I certainly agree with Seb's position on embodied carbon. So, we've talked a lot about operational carbon emissions and how we have the answers. We just need to go away and do it. The next big piece of the pie is in the embodied carbon. And currently there's no legislation around, controlling that impact. It's not measured and so there's no mitigations in place.

And I guess to give listeners an example of impacts, the production of concrete contributes about 9% of the world's greenhouse gas emissions. Lots of hospitals are made predominantly with concrete, and it's something that we can change to timber. And it would significantly reduce embodied carbon.

So, for myself and WSP, I think that is a lot of momentum, which has gained in terms of sustainability on property and infrastructure projects. So certainly, the exciting parts of what we're going to deliver on electrification, renewables, embodied carbon and the use of timber instead of more CO2 intensive materials. But really the key to delivering those on projects is to make sure that it's upfront in project briefs before it comes to any design team. So certainly, we're looking to partner with agencies and with our clients really upfront on a project to make sure that they have the right organizational strategies, targets, objectives in place to deliver those outcomes on their projects.

Jonathon: Our discussion so far has primarily focused on private health sector assets and the great partnerships that have been formed to deliver some fantastic environmental outcomes.

I think it would be really interesting to see that public transparency of both private and public health facilities. I mean, Rob mentioned earlier that their Dexus' investors their sustainable aspirations really drive the outcome of Dexus' new healthcare developments. So, it'd be interesting to see that if there is that transparency across both public and private sectors, will people start to think about where they get their healthcare from based on the performance of public and private health assets.

Sean: I think it will certainly drive some increased community expectations. Whether or not someone chooses to go to one health care facility compared to the other I don't know. I hope that that's the case, but we will see.

Jonathon: Look, I think we'll wrap it up there. It seems that we're only at the tip of a really exciting time ahead as the healthcare sector continues its journey towards de-carbonization. But to quote Rob's comment earlier, it's important that these long-term objectives aren't left for the next generation. So hopefully we will start seeing more of an appetite from our industry to step up and minimize carbon footprint so that we can achieve carbon neutrality. Thank you, Seb, Rob and Sean for joining me today.

Rob: Thanks everyone.

Sean: Thanks.

Jonathon: And thank you to our wonderful audience. We hope that you stay tuned over the coming weeks. As we continue to explore some of the key issues that we face in delivering resilient healthcare facilities.

Intro: We hope you enjoyed this episode of People and Place. To hear more, find us on Spotify, Apple podcasts, and Google podcasts. You can also find us on LinkedIn and Facebook at WSP in Australia and on Instagram and Twitter at WSP_Australia.

