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00:00

Much great. So yeah, my name is Robin walk. I manage a group called market transformation at BC Hydro, and I'm the Vice code covid, Chair of the energy step Code Council, which then morphed into the national tier, tier code. And so Laura asked me to talk a little bit about what happened here in BC, and what might be transferable for you in Manitoba, as you're looking to ratchet your building code up through the tiers. So there's a report that I put together back in June 2019 that's available on the web if you wanted to check it out, that goes through a lot of what I'm going to talk about in more details. And there's also, I've done a couple of podcasts, so there's one at the end, if you again, if you want to hear and learn more. So here's some slides. I'm just going to start with some slides that I borrowed from a builder who was doing a presentation back in 2018 and here's what he had, hope you guys are mad men fans by 2032, every builder in BC will face a simple choice, build like passive house or build somewhere else. Are you ready? And at the time that seemed like pretty ambitious like setting that that that vision out. But we really are midway through a remarkable market transformation. This is not what we look like in BC, but anybody who likes Mad Men, there you go. Since 2019 we've just seen a transformation of our building stock, with 1000s and 1000s of buildings getting built, which are at different tiers of the tier code, so everything from single family through to multi family in all different parts of the province, warm and cold laneway houses as well. Triplex, we've got gentle density multiplexes now happening in BC. We can get those done also at the top steps of the tier code, marketed as green, there's some indigenous projects as well, large scale projects, community centers, etc, etc. Actually, Laura, can you see my screen, or is some of that blanked out because of the top the Zoom messaging?

02:18

I can see it. Okay.

02:19

Is that the case for other people?

02:21

Yeah, okay. For Maya, I've got it blacked out, so I just want to make sure everyone got it. So here's the tier code. And of course, there's the there's the part nine, the small housing one, a large housing, a large building one, my understanding is you guys would like me to focus on the on the small housing one for this presentation. So here's the tier code. And this is BCS pathway. So we worked on what we called the BC energy step code back in 2018 and really we saw the BC building code change, and we set targets for that change for 2024, 2027 and 2032 what we thought was like, let's let's see like, when could we build like passive? When can we build net zero energy? Ready? And it was determined that for us, it would take that time frame, knowing our building stock, etc. So we said 2032 and then we worked well, what would be that transition between tier five, four and three. And so this is what we came up with. Tier Two, by the way, was a bit of a red herring, one that we ended up sticking in to appease some builders. And yeah, it's an unfortunate red herring, I think, because it suggests you need to go through tier two to get to tier three. That hasn't been the case in BC, and perhaps will be in your jurisdiction as well. So I understand this is where you guys are at 2024 have adopted the tier one, but just wanted to reflect that what your code is and what's actually getting built might be two entirely different things, and for your province to adopt these higher levels of the tier code, it'd be really helpful them to for helpful for them to understand what the market penetration is of these, of these tiers already within your jurisdiction. And so we know, for example, we had local governments able to go out first. And so by 2021 70% of all new build was getting built to tier three, and we just adopted tier tier three province wide. And we know that already 30% of new builders going to tier four or above. So really interested in what you guys understand about where your market current is at. And by the way, our market was, we had far poorer performing buildings the new I imagine when we started, we were not being attentive to air tightness, especially in our warmer parts of our province. So my first guidance is really to understand your builders and what's actually going on in your jurisdiction. It might tear covid might not be as scary as it seems to some. So really understand what that baseline is. And. We sort of mapped out what the sort of market segments were of our of our builders who are building in BC. So we often it seems like we hear from the squeaky wheels the people who are struggling are the stragglers. But what we really want to do with the tier code was to understand what the innovators and the early adopters like Eton were doing, and then let them be coaches to the rest of the industry. So we ended up, we worked very, very closely with the Canadian Home Builders Association. We found that those people who were volunteering for the Canadian home builders were typically building better quality homes anyway, and so they had to end up measuring their their homes, seeing where they were at. And once they realized where they were at, they were able to be really great advocates for the rest of the market. Yes, we can to pull the rest of that that market through. And then similarly, we work strongly with the building officials association of BC, nobody wants to have builders who aren't building a safe, warm, cozy homes. So you know their job is really to work with the stragglers. So bringing them on board as well around covid option was really helpful. And then there we go. We wanted to move that early and late majority through. So we really were looking to empower our innovators to teach their teach the peers. So we did a whole bunch of work with the individual Home Builders Association. We have regional ones here in BC, and really elevated their work. So where they were videos, they were profiles on, yeah, I built this building and it's a step three one, or I built this building and it's tier four one, etc. And we had homeowners as well. So we brought these guys out once they were convinced that, yes, it's the right thing to do, they were able to be the train the trainers. They were able to come out to their own conferences and talk about, yes, you can do this as well. Second thing is, we really brought leadership together, we created something called the Energy step Code Council, which I'm on the leadership group for. It was critical that we had the province there. It was critical we had local governments, because these are regulators. But we also had the home builders, the developers, the architects, the engineers, building officials, planners, all the old professional associations were there in the

room to be able to say, yes, we can make this transition that we can't. And nobody in the room felt that we shouldn't be building better buildings. Everyone could agree on, yes, we it is technically possible to build to passive house level. But what's it going to take for our industry to transition? And they were able to provide guidance, and we really opened it up when people had concerns, because we had leading builders there who could kind of ground truth some of the comments that were coming in, we welcomed comments coming through. You know, it's difficult in my region. Why is that? Why is it difficult? What are the trouble? Oh, it's training issues. Oh, great. Okay, so we need to work with the universities, the colleges, etc. So we welcomed input from others, and we held this sort of confidence space that we had the leading thinkers here, and so we could get a good pathway around what it was going to take. By the way, having a funder to fund the set Code Council, fund studies, fund training, is really critical. We as BC Hydro, were able to use demand side management funding to be able to support that, and that would be a really critical element to be able to make sure that you have long term support for this transition. The third point that I'm going to make is to really lean on your local governments. Now I'm here at another conference. I'm speaking here in Ottawa, and I understand that other jurisdictions are limiting what local governments can do. They can't require that their builders go above code, and I think that's a real missed opportunity. Initially, in BC, we weren't allowed to go about local governments weren't allowed to go above code to make outright requirements, but they ended up doing very innovative things to get around that. So for example, they ended up one municipality down, zoned the entire municipality and said, Okay, everyone has to build at this level. But hey, if you want to build the other level that you wanted to build at, you have to build a step code three. Another one had rezoning policy. If you're doing a rezoning, part of what you have to do is to build up to, you know, step five. So there was all sorts of policy tools that you could use if your local government isn't allowed to lead, where we landed in BC, and I think it would be great if you could land elsewhere in the country was allowing local governments to lead. So we found that the local governments that were in urban areas were typically more progressive. They typically had better trained staff or. Eddie they typically had, yeah, but just the appetite to try things and so, yeah, give you an example. So, yeah, within, within one year of the energy step code, the tier code, your tier code being made available, we had, I think it was about 19 local governments, which made up only 15% of all local governments in BC, but it was 70% of the housing, the building start locked into step code, so you don't have to worry about, well, can spasm and the little tiny places build to these levels, do they have enough energy advisors, et cetera. You could actually try it out in the large urban areas where you've got more capacity, prove it out, and then that helps to get the provincial uptake. So just a couple of examples from city of Vancouver of just the scale of uptake that they've ended up having, and this was like in 2019 now we have, you know, city wide requirements. So I'm going to wrap it up there. I'm really interested in your questions. Happy to take any after Ethan's had a chance to talk a little bit about Manitoba, if you are interested in in learning more, as I say, there's that that report that we published in 2019 and I was on a podcast a little while ago. Also happy to answer any questions.

11:28

Thank you, Robin. My name is Eaton Harris from Harris builders. And so while I was preparing for this presentation, I came across an Instagram post I thought was kind of somewhat relevant to the topic. It read, in case you needed to know what Republicans have going on next week on the House floor, it says, Jesus H, Christ. HR, 6192 hands off our home appliances. Act HR, 7673 liberty and laundry. Act 7645, the clothes dryers, reliability. Act 7637 refrigerator freedom. Act, affordable air conditioning. Act, stop, unaffordable. Dishwashers, standards. Act, so I chuckled.

But this is kind of a continuation or a variation on a theme of the take my gas range from my cold, dead hands discussion that that's been going around for the last while, and I think a large segment of the population in the US and in Canada as well. This definitely resonates with them.

12:47

It's easy to drum up fear.

12:52

Okay, I am reading one of the comments,

12:56

but it's easy to drum up fear. It's easy to negatively paint energy efficiency and sustainability and general negatively, it's easy to say it's too expensive or too bureaucratic, and removing regulations or cutting red tape is often a winning political strategy with amongst a lot of a large segment of the population. So even if it hurts those people in the end, or in the case of cutting red tape, is just a bunch of words.

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So my our topic is not

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on. Well, I mean, in some ways it is on, on this similar topic, but, but we're talking about the building code, energy tiers, and it is very similar. It's less about whether we as an industry can fast track towards the higher tiers, because we're, you know, in Manitoba, we're already building to the higher tiers consistently. It's just more about changing mindsets and then hopefully changing policy. My talk is not going to be about changing mindsets or policy. We've got sustainability, Manitoba to and other great groups that are doing work on this. But my my discussion is more about our business, personally and how we came to to more energy efficient or greener building practices. So I'm not going to go into why. You know the changes from tier one to tier two or three. Well, to tier three really don't add much in the way of building costs, especially when you factor in efficient efficiency Manitoba rebates, and we know that energy efficient homes save clients more money in the long term. They can help reduce peak energy demands, which help the overall grid emit less greenhouse gasses. There's, I mean, there's a million reasons, and. Um, and I'm sure you all know them, but yeah, I'd rather go into a little bit of what, where our company came from. So Harris builders, or Harris holdings. It's a family business. We've been around since the late 50s. My grandpa started it, and we were one of the largest piling companies in Western Canada focused on large, multi story buildings and bridges. We were part of the construction of the Midtown bridge, the Disraeli bridge, lots of bridges, lots of sky rises. And in the 70s, my father started building homes in tuxedo almost as a side what was a side project outside of the company, and then ultimately, when our pilot company shifted

to other industrial construction areas in the 90s and the and the early 2000s Harris builders as a formal division was was started. So since then, we've been we've been focused only, or mainly, on high end custom homes and then large scale restoration projects for the most part. As a teen, I worked in the family business, but then I had a long hiatus where I went and pursued other interests, and I guess some of those interests make me a less conventional owner of a construction company. So for years, I co ran Mondragon bookstore and coffee house. Some of you from Winnipeg, if you, if you, if you remember that place, it was an exchange district vegan cafe that focused mainly on local, organic and fairly traded goods, long before this became part of the sort of mainstream. Not sure if it's part of the mainstream, but every restaurant now at least talks or gives some amount of lip service to local or organic and early traded goods, but so I wasn't your typical builder when I came back to the company, but sustainable choices have always been, you know, in my heart, but when I came back in 2012 to the to the family business, Sustainability definitely wasn't the first thing on my mind. I wanted to stabilize our I wouldn't call it fledgling, but our home building company, our side of the business, and then establish ourselves ultimately as the preeminent high end custom home builder in the city and through surrounding ourselves with, you know, smart and passionate people, we've been able to do some pretty cool things. We've tried to become sort of the architects builder and seek out challenging projects. We don't run from difficult design. Instead, our guys try to figure out more and how to build more and more complex buildings, it seems. And then through these difficult projects, we just become more and more passionate with how to build better and with so many crazy details that we have to work with every day, we've just had to increase our building science chops, I guess so, one source we relied on consistently through the early years, and especially now today too, was prairie house performance and geo Robson. So before we got smart enough to actually send geo plans, before we started building well, especially with efficiency Manitoba, and before we were framing them, we'd call him in a panic to get him to a job site and go over difficult details and difficult aspects of the build and walk through the house with him. And they were always they were always informative, and we've learned so many from so many of our failures over the years and some successes then. Since then, we've made it our standard to to include in our in all of our homes, structural concrete basement slabs with under slab insulation, ICF foundations for the most part, or if we do exposed interior, concrete walls will have four inches of SubTerra on the exterior. We do our standards is exterior two inch rock wool as well, or exterior zip sheeting, although the zip sheeting is more just because some of our builds take so damn long to build. So it's helpful to have the zip sheeting, heat pumps, try pane windows. A lot of what you know, a lot of other builders are doing in the city, but a couple of other things that we do that are maybe a little bit different, are we also 3d model all. Of the homes that we're working on. So if an architect gives us a drawing package, we'll internally 3d model the whole build. It obviously has a ton of benefits for us as a builder, but in terms of energy efficiency, it's a good tool to spot just travel areas that might you know, that we could deal with or or problem solve well before we get to that stage. So if there's any tricky building envelope issues, we can hopefully spot them. We also do our own internal pre board review where all of our PMS and our site supers meet at one of our projects and pick it apart before we close it in. It's definitely not a fun day, potentially, for the PMs and the site supers on that particular project, but ultimately, we learn a ton from them. So we're getting better and better on each project. Really. We currently build on average somewhere between tier three and tier four. But, I mean, there's no, there's no reason why we couldn't go above tier four today. It really is just a question of of our clients and sometimes the architects and designers that we're working with. We're, you know, we're a little bit different, because we're in a segment of the market building high end homes and and we're not building them on spec. We're not doing track homes. So we're building people's forever homes for the most part. So they need to be durable, they need to be built for comfort. Sometimes they need to be built maintenance free. That means, but every house needs maintenance, but we also

have clients that have budgets that they want us to stick to, like every other builder. So we do battle at times with added costs for exterior insulation or heat pumps, for example. But efficiency, Manitoba, other programs for homeowners, have definitely helped a ton in making the these kind of easier decisions for for our clients nowadays, but I would say the bigger thing, bigger selling point, for our clients in terms of energy efficiency, has just been overall comfort in their homes and then possible savings. And then it's just in the last few years that we've had some of our clients that are starting to think more about their urban footprint, so eliminating or reducing gas services to the house or appliances paying a bit extra for higher eco pack concrete. More and more are considering solar and geothermal. But we, I would say that we, as builders, we have to nudge our clients more. We definitely have to, you know, keep pushing government to to rise through the tiers. But it's hard to wait, especially in Manitoba, if we're just starting at tier one. So in the meantime, one thing that we've discussed and one thing that we are implementing to help steer our clients to more energy efficient choices is

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for we're doing an in house in Harris program where for geothermal and solar, any clients that want to go With these options, we don't mark those up. There's no management fee on them. And then we also offer a, up to a $5,000 rebate on the overall build if they're going with geothermal or and or solar. But I the last point. I don't want to make it sound like, you know, the solution rests with business, because, you know that's not we're not going to get our way out of this with just businesses coming to the table. We need regulation, we need code. We need to rise through the tiers. It's just too there's too much pressure on too many builders to build the lowest standards possible. So even though it's a nice option for individual businesses to give a rebate or a program to kind of nudge clients to more energy efficient choices, the real solution is more advocacy. So, yeah, I guess I'll stop there. I maybe went over a little bit, and we don't have too much time for questions.

24:20

All right. Thank you so much to both of you. Really appreciate all of the wisdom and insights that you've shared from your different perspectives. Lots to learn from BC, and then also lots to learn from people who are already in Manitoba Building Energy Efficient houses. So from the chat, we have some questions. Eaton, what do you estimate the cost to move from tier one to tier three.

24:44

Well, you know what? I think sustainability. Manitoba has a pretty good I think you guys on your website even assumed it was four to $5,000 or so. I yeah, I mean, to be honest. I have not tracked that to see if that lines up with what we would see. But, I mean, yeah, I I don't know it might be a little bit more. It also depends too, because we're some of our the homes that we're building are are larger homes. So it really depends on a on a case by case basis. Mm, hmm,

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very fair. Robin, do you have any insight in the different costs between the tiers that you'd like

very fair. Robin, do you have any insight in the different costs between the tiers that you'd like to share?

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Yeah, for sure. So we should. We do have a costing study that we did it back in 2019 but you can find on our website, we typically looked at about a 1% cost increase, which was, again, within the margins of error. It often design often depends, though, on the way you design the building in the first place. If you're making a super complicated building with lots of articulation, way more expensive you're making a simple one, you're getting cost savings anyway, over the fact that you're not articulating the building. And then also it's obviously much more cost effective. So yeah, really, a lot of cautions around the costs, that if you think about it ahead of time, you've got performance requirements, then you can fit it into the budget one way, one way or the other. You know, our architects were talking about, you know, using exterior cladding to design to add interest to the building, not necessarily building, building articulation.

26:28

Nice. Thank you. Okay, so

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a question about supply chain so we have heard that there are supply chain issues. So Eaton, I'm going to ask you about if you're experiencing any of that and have supply chains happening in Manitoba. And then Robin, I would like to hear from you after about any supply chain like, how you guys overcame any challenges related to that. So Eden,

26:48

I mean, the only supply chain issue that's hit us recently has been rock wool. I'm sure a lot of other builders, maybe on the on the chat, know about that one as well, too, but even there. I mean, we shouldn't say this, but we've been scouring Manitoba and just buying as much of it as we can and then, but also through AMC foam as well too. We do a lot of NextEra as well. So yeah. I mean, we've, we haven't had any problems really, supply chain wise. And we also do, I mean, we're, we're not a large Track Builder. We do about, you know, 12 to, you know, really, at any given time, we'll only have about 12 new home builds on the go. So, yeah, it's been, we haven't, we haven't seen a major hit.

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Hey Robin, yeah, for sure. I mean, so I would say that one thing I didn't mention, so energy step code, the tier code is about efficiency. We've also just adopted the zero carbon step code, which hopefully you guys will also have available to you, which is around the carbon footprint of the building, so, from a, from a operational perspective, so really, again, it has tiers the same as the tier code and and, you know, with tier one being reporting, tier two being taking out

either hot water or heat, sorry, gas, hot water or heating. Tier three being taking out both and tier four also looking at cooking, taking out cooking. So on that side, heat pumps, availability has been something that we're working with. And I think, you know, I think the bit the beauty of setting a tier code transition for your industry is telling them it's coming like and that's what a lot of our we have at a provincial scale. The local governments have typically not just adopted tier three. They've said in tier four, it's going to be in three years time, and tier five, it's going to be in in five years time. They've given a time frame tied to that so builders can start to work with their suppliers, understanding these materials are coming through, they can work with their with their staff, to get them trained up, because they know that it's coming. So yes, supply chain is an issue, but I think providing that certainty of regulation is very, very helpful

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for people to invest in that area.

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Okay, another question for Robin about what training programs for builders construction trades were available for the step code, new code requirements, and how did that part of the equation happen? Yeah,

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for sure, training programs were critical. So again, with our demand side management dollars, we partnered with all the professional associations to deliver training to their organizations, and it was like the building officials had a building official guide that was developed and they trained their build as building officials. So actually, I had just got a text on being asked to speak at the building official, building official Association, BC conference in three weeks time at. We'll make sure that on the I'm there as a speaker, but we'll have on the panel building officials, builders, so they're actually hearing it from authoritative sources. Because, you know, I'm just somebody from BC Hydro, so making sure that you get get those respected voices is critical. And then we also found professional associations were really interested in making it part of professional development requirements. So rather than just a, you know, a webinar of interest to people, if it was some way they could get credits that they they need mandatory, they need to get mandatory credits to be able to keep their professional qualification if they have one around step code. That was awesome. And then we even had, we have BC housing here, who's a regulator for builders, and they made it a mandatory requirement for builders to actually pass through training. So there's, there's lots of different ways to make it happen, but working with those trusted industry associations, those voices, they need to provide training anyway, here's something they can provide training on. It was really, was really helpful.

31:06

Thank you. Eaton, do you have any reflections on training requirements that you'd like to see in Manitoba? It's okay if you don't. But just figured I'd ask.

31:14

Not really, no. I mean, yeah, internally, we just try to learn from the best we we are constantly asking geo a ton of questions. We're always we also John Wells. He's a, a unbelievable resource. There's, there's a lot in Winnipeg, and we, we pick their brains all the time,

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yeah, there's, there is so much expertise, and it's so nice to see how many people, both in Manitoba and outside of Manitoba, are willing to step up and talk about these things. But definitely need to figure out how to do some of what Robin has said, to make it available to everybody, and not just have 60,000 people emailing geo specifically, for example,

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I know, I guess maybe,

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um, eaten. Do you share or publish what you learn in Manitoba like do you review plans? Option? I am planning on building a house and considering paralyte under foam to have less carbon. So do you ever share your you know

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what we're I have to say we're kind of terrible when it comes to our social media presence, or what our website, and at some point we're going to get on our game. But if any, any person who is, you know, doing something on their own, and wanted some advice, we'd be happy to talk to anyone. I mean, just reach out to us and and we'll share our expertise, for sure, but we don't do Yeah, I mean, at some point, maybe we'll step up our social media game.

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Amazing, amazing. Do either of you have any final thoughts that you wanted to share a

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sort of question around the most effective policy tools, one that was really interesting that you guys might be interested in as well. A city of Vancouver has policies that apply to the largest buildings. And sorry, Ethan, this is probably going to address your guys, but they have a they had this carbon policy, which is if buildings under took an average building side, I think, was 2000 square feet, and then they said any building above that had to have the same carbon footprint as that 2000 square foot home. And so you ended up having way higher

requirements. The bigger you had the building, the more onerous with the requirements. But who's going to come out and say, we shouldn't be doing that like it's certainly not the affordable housing advocates. They're going to be brilliant. Let's, let's learn from from those bigger luxury builders who can certainly afford to have that in in their budget, and then make it easier, then then bring along the smaller home builders as they come through. So I thought that was a really innovative approach to making sure that we, yeah, we allow for market transformation.

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I think it's smart. I mean, I would we try to talk to our clients too? I mean, we also don't. I mean, we're working with architects or designers, so we don't always have every say. So that's why it's on the policy level. If, if we can do it there, then it just forces us to do this. It makes it easier for us to talk to our clients. If there's no real choice there. It's this is what the code is. We have to, we have to build to the standard, because the home is this size. So yeah, I would welcome it for sure. Yeah.

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Thank you so much for catching that question. I'm

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sorry that I missed it in the chat. There one final question before we go for the end of the session and take a. Little break before the next one. Are there any research documents produced through the code Tier team in BC? Publicly available?

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Yeah, if you go to energy, energy step code.ca

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There is a resources section on there, and including the costing studies. We did build a handbook, a building Official Handbook, large scale builders programs, etc. So go on there, and we actually, there's also, I should say, there's a newsletter that we publish. So I think there's a how to get signed up. You can go to there. If you can't find out how to get signed up, let me know, Laura and I can provide that link. But there's, again, it's a continuous learning for our builders, for our industry. And so the way that we can share success stories and challenges and innovations, that's a great resource, and we'd welcome others to be reading it as well. Yeah.

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Thank you so much to BC for all of the resources that you've developed to make available, and

certainly all include how to sign up for that in the next newsletter, and we often share some of the things from BC in the SBM newsletter, because, you know, it's important to see that things are possible and they're not just like an intellectual exercise. So really appreciate all the work you guys have done well. Thank you so much for your time and expertise that you shared here today. We'll be back in about five minutes for the next session, so go grab a drink. Have a fun time, and thank you again. Eaton and Robin, this was amazing. Thank you so much. Thank you. Bye.