

Webinar

ULI British Columbia: Canada's Net Zero Future

Date: November 16, 2021

00:00:00 --> 00:00:03: Who here is? Finally, in a from the waiting room.
00:00:03 --> 00:00:07: So if you just hang tight.
00:00:07 --> 00:00:08: See people continuing to enter,
00:00:08 --> 00:00:10: so we'll give it another minute or two before we
00:00:10 --> 00:00:11: get started,
00:00:11 --> 00:00:12: but I want to thank you all for those of
00:00:12 --> 00:00:13: you who are on.
00:00:13 --> 00:00:15: Thank you for joining us for what I think should
00:00:15 --> 00:00:17: be a really interesting topic for today.
00:00:21 --> 00:00:23: Give it another minute or two here.
00:00:23 --> 00:00:25: See a few more people filing in.
00:00:30 --> 00:00:32: Thanks for those who decided to actually still show up
00:00:32 --> 00:00:33: today.
00:00:33 --> 00:00:34: Even though there was a lot of sunshine,
00:00:34 --> 00:00:36: I suggested we cancel work today,
00:00:36 --> 00:00:39: but nobody nobody agreed with me but.
00:00:41 --> 00:00:46: I think it will be a worthwhile conversation for sure.
00:00:46 --> 00:00:49: Maybe I'll just give it maybe 30 more seconds before
00:00:49 --> 00:00:50: we get started,
00:00:50 --> 00:00:52: but thanks to you who are on.
00:00:54 --> 00:00:57: Just wait and see if anyone else falls in but
00:00:57 --> 00:00:57: OK,
00:00:57 --> 00:01:00: well I'm sorry I actually didn't really start to past
00:01:00 --> 00:01:00: here,
00:01:00 --> 00:01:03: so we get started and hopefully other people will file
00:01:03 --> 00:01:03: in.
00:01:03 --> 00:01:05: But first of all, again I want to thank you
00:01:06 --> 00:01:08: all for joining us on this sunny Tuesday afternoon.
00:01:08 --> 00:01:11: My name is Duncan murder Chicken on the chair of

00:01:11 --> 00:01:13: ULIB C and I'm just here to get some brief
00:01:13 --> 00:01:16: introductory remarks before we dive into the panel and are
00:01:16 --> 00:01:18: moderated discussion before we get started.
00:01:18 --> 00:01:21: I just a couple of housekeeping and remark items first.
00:01:21 --> 00:01:25: As always, I do want to recognize that ULIBC does
00:01:25 --> 00:01:26: our work here.
00:01:26 --> 00:01:30: NBC on the traditional territories of many different indigenous
00:01:30 --> 00:01:31: peoples
00:01:30 --> 00:01:31: right across the province.
00:01:31 --> 00:01:33: I myself and probably several of the other people on
00:01:34 --> 00:01:37: scholar coming from the traditional and unceded territories or
00:01:37 --> 00:01:39: the
00:01:37 --> 00:01:39: Coast Salish people or mushrooms.
00:01:39 --> 00:01:41: One must save it up and we appreciate them hosting
00:01:42 --> 00:01:44: us here just for those of you who may not
00:01:44 --> 00:01:46: be in those traditional center choices.
00:01:46 --> 00:01:48: Hope you take a moment to reflect on on where
00:01:48 --> 00:01:51: you're calling from and who might be hosting you,
00:01:51 --> 00:01:55: but we do appreciate working closely and the fact that.
00:01:55 --> 00:01:57: We do get to work with so many different indigenous
00:01:57 --> 00:02:00: peoples right across the province and and so for today
00:02:00 --> 00:02:01: actually before I do that,
00:02:01 --> 00:02:03: I always I also want to.
00:02:03 --> 00:02:05: Sorry, I'm just so excited on the topic.
00:02:05 --> 00:02:08: I just want to once again as always thank all
00:02:08 --> 00:02:09: of our annual sponsors today.
00:02:09 --> 00:02:11: We are not going to name the mall.
00:02:11 --> 00:02:13: They're up here behind me on my zoom background,
00:02:13 --> 00:02:16: but we appreciate their ongoing support.
00:02:16 --> 00:02:19: I actually we did. We just had a Cushman Wakefield.
00:02:19 --> 00:02:22: Join our sponsors or family so I appreciate them joining
00:02:22 --> 00:02:24: us and that's where their ongoing support we able to
00:02:24 --> 00:02:25: put on programs.
00:02:25 --> 00:02:27: Like this and and many others,
00:02:27 --> 00:02:28: so we appreciate their support,
00:02:28 --> 00:02:31: especially through the pandemic. Nada were coming out,
00:02:31 --> 00:02:33: so I want to dive in right away and today
00:02:33 --> 00:02:35: was very interesting subject.
00:02:35 --> 00:02:38: We've actually had a couple of conversations around or
00:02:38 --> 00:02:41: adjacent
00:02:38 --> 00:02:41: to this subject today over the last year and a
00:02:41 --> 00:02:41: half.
00:02:41 --> 00:02:45: Obviously COVID has really dominated the conversation,

00:02:45 --> 00:02:48: whether that's here at ULI or or in the industry
00:02:48 --> 00:02:50: or in the city or the province and everywhere,
00:02:50 --> 00:02:54: obviously, but one of the other challenges that is sort
00:02:54 --> 00:02:54: of more.
00:02:54 --> 00:02:56: Although seemingly these days in Vancouver a little.
00:02:56 --> 00:02:59: The less low key, and then as I looked at
00:02:59 --> 00:02:59: previously,
00:02:59 --> 00:03:01: but sort of an issue that we know is out
00:03:01 --> 00:03:01: there,
00:03:01 --> 00:03:04: is climate change and it has the ability area is
00:03:04 --> 00:03:07: it is happening right now and it's affecting the way
00:03:07 --> 00:03:09: we build our cities.
00:03:09 --> 00:03:10: The way we interact with our cities,
00:03:10 --> 00:03:12: especially for those of us who are in NBC,
00:03:12 --> 00:03:15: know that it's very front center after the last few
00:03:15 --> 00:03:17: days with all the floods and rain,
00:03:17 --> 00:03:19: rainfall and whatever was called the Hydro River.
00:03:19 --> 00:03:22: And so you know, it's in who's all of us
00:03:22 --> 00:03:24: said that involved you a lion in city building to
00:03:24 --> 00:03:27: be thinking about what role we all play.
00:03:27 --> 00:03:29: In in the in tackling climate change,
00:03:29 --> 00:03:32: and increasingly, it's about not only trying to do our
00:03:32 --> 00:03:34: best to curb climate change by lowering emissions,
00:03:34 --> 00:03:38: but also thinking about how we adapt our built environments
00:03:38 --> 00:03:41: to to deal with the reality that is happening all
00:03:41 --> 00:03:41: around us.
00:03:41 --> 00:03:44: And so that's why today we've been a little while
00:03:44 --> 00:03:46: since we've had a subject like I talked about this
00:03:46 --> 00:03:46: subject.
00:03:46 --> 00:03:49: And, you know, I know this is many do.
00:03:49 --> 00:03:51: Others in Vancouver and elsewhere that the the number one,
00:03:51 --> 00:03:53: at least from a built environment.
00:03:53 --> 00:03:55: The number one thing we could actually do to try
00:03:55 --> 00:03:57: and tackle climate change is around buildings.
00:03:57 --> 00:04:01: Buildings represent the majority of emissions here in in the
00:04:01 --> 00:04:04: city of Vancouver and many cities right around DC.
00:04:04 --> 00:04:06: And you know how we build our buildings and where
00:04:07 --> 00:04:07: that's going.
00:04:07 --> 00:04:10: It will be a big part of the conversation moving
00:04:10 --> 00:04:11: forward as an industry in particular,
00:04:11 --> 00:04:13: there's a lot, especially in recent days,
00:04:13 --> 00:04:15: whether it's in Canada. I was just sharing with the

00:04:15 --> 00:04:18: panelists before this in the United Kingdom and elsewhere.
00:04:18 --> 00:04:21: Net zero. The idea of getting a net zero by
00:04:21 --> 00:04:23: 2050 is is a is is very much in the
00:04:23 --> 00:04:24: discourse,
00:04:24 --> 00:04:26: and it's something we all have to be thinking about,
00:04:26 --> 00:04:28: and especially in the built environment.
00:04:28 --> 00:04:30: And so buildings again play a huge role of dominant
00:04:30 --> 00:04:32: role in getting to net zero.
00:04:32 --> 00:04:34: So today we wanted to host a conversation about that.
00:04:34 --> 00:04:36: I'm sure it will be the first of many and
00:04:36 --> 00:04:39: hopefully from this will have many more conversations
building out
00:04:39 --> 00:04:40: of this one,
00:04:40 --> 00:04:42: but I'm happy to be joined by a couple of
00:04:42 --> 00:04:43: great speakers who will.
00:04:43 --> 00:04:46: Then we'll and then we'll have a moderated discussion
following
00:04:46 --> 00:04:48: that with our with our moderated Patty Glass.
00:04:48 --> 00:04:49: But so before we get started,
00:04:49 --> 00:04:52: I just want to give some pre brief introductions,
00:04:52 --> 00:04:55: so joining us is lower Kraus who's the Director of
00:04:55 --> 00:04:58: Environment and Social Governance at Grosvenor.
00:04:58 --> 00:05:02: Come, Laura overseas and drives and involves sustainability
at the
00:05:02 --> 00:05:05: company and works to enhance the existing focus on
delivering
00:05:05 --> 00:05:07: social benefit in North America.
00:05:07 --> 00:05:10: She's leading the company in its pursuit of achieving our
00:05:10 --> 00:05:10: world.
00:05:10 --> 00:05:14: Green Building Council's net zero carbon buildings
commitments as we
00:05:14 --> 00:05:18: just discussed and additionally she actually also overseas
brokers equity,
00:05:18 --> 00:05:21: diversity and Inclusion Committee, which obviously is very
tight into
00:05:21 --> 00:05:24: some of the other conversations we've been been having.
00:05:24 --> 00:05:28: She most recently senior position as senior development
manager.
00:05:28 --> 00:05:31: Grosvenor SF office, and fortunately for all of us as
00:05:31 --> 00:05:34: an active member in UI as much at Grosvenor,
00:05:34 --> 00:05:36: is and sitting on, you know,
00:05:36 --> 00:05:39: executive order national product councils.
00:05:39 --> 00:05:41: Joining Lauren for this conversation is Chris Fowler,
00:05:41 --> 00:05:45: who's the CFO, recent CEO of Passive House Canada,

00:05:45 --> 00:05:48: and you know, he's had long history of supporting environment

00:05:48 --> 00:05:51: and land use causes for a political junkie like me.

00:05:51 --> 00:05:55: Most interesting, as recently as Ontario's Minister Environment,

00:05:55 --> 00:05:59: climate change, implementing the government's plan for the clean environment.

00:05:59 --> 00:06:01: And for a sustainable economy,

00:06:01 --> 00:06:04: uhm, I think interestingly connected to that,

00:06:04 --> 00:06:05: whether that was on purpose or not.

00:06:05 --> 00:06:07: He also served as Minister of Housing and the minister responsible for Ontario's Poverty Reduction Strategy and was a member

00:06:07 --> 00:06:10:

00:06:10 --> 00:06:13: of the Treasury Board so well versed in what governments can be doing and should be doing and need to

00:06:13 --> 00:06:14: be doing and now is on this side of the

00:06:14 --> 00:06:16: fence.

00:06:16 --> 00:06:16:

00:06:16 --> 00:06:19: So I'm very excited to get his perspective on that.

00:06:19 --> 00:06:23: And then once we hear from each of them over once again happy to have Patty Glass,

00:06:23 --> 00:06:25: who's a director of corporate,

00:06:25 --> 00:06:26: marketing and communications at Grosvenor or regular.

00:06:26 --> 00:06:29: Moderator and host these days and always leads a great conversation.

00:06:29 --> 00:06:32:

00:06:32 --> 00:06:32:

00:06:32 --> 00:06:35: So I'm very excited for her to join us and

00:06:35 --> 00:06:36: and as always,

00:06:36 --> 00:06:38: I need to plug the fact that Patty was the inaugural recipient of utilized Women Leadership Initiative, Outstanding Leader award and so we're very,

00:06:38 --> 00:06:42: very proud to have her as you align member but

00:06:42 --> 00:06:44: also to have her hosting this conversation today.

00:06:44 --> 00:06:46:

00:06:46 --> 00:06:48:

00:06:48 --> 00:06:50: So Patty I think I'm going to pass it to

00:06:50 --> 00:06:52: you unless Chris Lauren want to dive right in,

00:06:52 --> 00:06:55: but otherwise I'm going to leave you from here and I'll see you at the end of the conversation.

00:06:55 --> 00:06:57:

00:06:57 --> 00:06:59: Thank you so much, Duncan.

00:06:59 --> 00:07:00: There's there's little to fill in from what.

00:07:00 --> 00:07:04: He said that was a wonderful introduction and your passion just shines through,

00:07:04 --> 00:07:05:

00:07:05 --> 00:07:07: and I think that's a common theme that's going to come through on this call.

00:07:07 --> 00:07:08:

00:07:08 --> 00:07:11: So yeah, so just to kick things off,

00:07:11 --> 00:07:13: I'm, you know, welcome and it's an absolute pleasure to

00:07:13 --> 00:07:13: host.

00:07:13 --> 00:07:15: Not only is it a pleasure,

00:07:15 --> 00:07:18: but it's urgent. We're in a crisis.

00:07:18 --> 00:07:22: The built environment is a major contributor to.

00:07:22 --> 00:07:23: The climate crisis, as I said,

00:07:23 --> 00:07:26: and and it's timely, were on the heels of a

00:07:26 --> 00:07:28: widely covered Coke conference.

00:07:28 --> 00:07:31: And so again, it couldn't be better from it.

00:07:31 --> 00:07:34: Couldn't be better time than now as a brown person,

00:07:34 --> 00:07:37: I'll just do a quick plug on the passive house

00:07:37 --> 00:07:38: that nomenclature,

00:07:38 --> 00:07:40: and for those of you who may not know I

00:07:40 --> 00:07:42: was interested to learn this,

00:07:42 --> 00:07:45: that opposed to common approaches that rely on sort of

00:07:45 --> 00:07:47: complex mechanical systems.

00:07:47 --> 00:07:50: The more traditional building form this building form takes a

00:07:50 --> 00:07:52: passive approach to thermal comfort.

00:07:52 --> 00:07:53: And so hence the name and I.

00:07:53 --> 00:07:55: I thought I'd sort of set the stage there,

00:07:55 --> 00:07:58: but then ask Chris, maybe if you could just share

00:07:58 --> 00:08:00: some top guiding principles on passive House just to set

00:08:01 --> 00:08:02: the stage for the call today.

00:08:02 --> 00:08:06: Yeah, absolutely. And thank you for the invitation to present.

00:08:06 --> 00:08:12: Today were absolutely thrilled. We are a BC based organization,

00:08:12 --> 00:08:16: the the the roots of passive House Canada are right

00:08:16 --> 00:08:17: here in in BC.

00:08:17 --> 00:08:22: And of course in particular it right in Vancouver that

00:08:22 --> 00:08:22: has.

00:08:22 --> 00:08:25: For many years lead the development of the the Green

00:08:25 --> 00:08:27: Building standard will say,

00:08:27 --> 00:08:28: or the net zero building standards,

00:08:28 --> 00:08:31: so always delighted to talk to an audience that for

00:08:32 --> 00:08:33: the most part gets it right.

00:08:33 --> 00:08:35: I'm I'm preaching to the converted here,

00:08:35 --> 00:08:38: so a little bit about Passivhaus.

00:08:38 --> 00:08:39: First and foremost, you don't.

00:08:39 --> 00:08:42: The Passivhaus standard has its roots right here in Canada.

00:08:42 --> 00:08:46: It started in Saskatchewan back in 1977,

00:08:46 --> 00:08:49: was picked up by the EU,

00:08:49 --> 00:08:54: and it was codified by a German physicist.

00:08:54 --> 00:08:58: And from that we get the Passivhaus Institute.

00:08:58 --> 00:09:01: But the interesting thing is its roots were right here
00:09:01 --> 00:09:03: in Saskatchewan back in 77.
00:09:03 --> 00:09:09: So it's a very practical approach to reducing energy usage.
00:09:09 --> 00:09:12: But more importantly, it started out as as a comfort
00:09:12 --> 00:09:14: standard as a health standard,
00:09:14 --> 00:09:18: a Wellness standard. And if you build to the standard,
00:09:18 --> 00:09:21: you also get a building that is exceptionally low energy.
00:09:21 --> 00:09:25: So the Passivhaus standard will.
00:09:25 --> 00:09:29: Be about 90% less energy than a code built comparable
00:09:29 --> 00:09:30: building,
00:09:30 --> 00:09:33: and if you're retrofitting doing a deep energy retrofit,
00:09:33 --> 00:09:36: we're commonly getting 70 to 75%
00:09:36 --> 00:09:41: energy reduction. And on top of that you're still getting
00:09:41 --> 00:09:43: the comfort and.
00:09:43 --> 00:09:46: Health that good fresh air brings so you know our
00:09:46 --> 00:09:50: our mission at passive House Canada is to obviously to
00:09:50 --> 00:09:53: talk about passive House standards,
00:09:53 --> 00:09:57: but really, to make 0 emission buildings known and adopted
00:09:57 --> 00:10:00: by government and industry right across the country,
00:10:00 --> 00:10:04: we support government and industry as they develop policy
and
00:10:04 --> 00:10:06: and move in that direction.
00:10:06 --> 00:10:12: And then we promote the the Pacific Institute building
standard
00:10:12 --> 00:10:13: because we find.
00:10:13 --> 00:10:17: Not only is it globally recognized by the United Nations
00:10:17 --> 00:10:17: and the EU,
00:10:17 --> 00:10:21: and many, many nations around the world have just adopted
00:10:22 --> 00:10:26: that building standard as they're building or a major part
00:10:26 --> 00:10:27: of their building code,
00:10:27 --> 00:10:30: but we also find this one of the fastest ways
00:10:31 --> 00:10:32: to get to net zero.
00:10:32 --> 00:10:36: There is, and we like to say it's not rocket
00:10:37 --> 00:10:37: science.
00:10:37 --> 00:10:39: It may be building science,
00:10:39 --> 00:10:40: but it's not rocket science,
00:10:40 --> 00:10:42: so a little bit about pacifists.
00:10:42 --> 00:10:45: We focus on insulation. Lots of it.
00:10:45 --> 00:10:49: We focus on really good quality windows and doors.
00:10:49 --> 00:10:52: We focus on an airtightness.
00:10:52 --> 00:10:56: We focus on using really good heat recovery,
00:10:56 --> 00:11:01: ventilation systems and and very low energy so our buildings
00:11:01 --> 00:11:05: to reach the basic passive House certification level.

00:11:05 --> 00:11:10: The buildings use 15 kilowatt hours per square meter,
00:11:10 --> 00:11:14: which is very much next to nothing in fact.
00:11:14 --> 00:11:20: Houses in Victoria, Vancouver oftentimes only have a say,
00:11:20 --> 00:11:23: a 1200 Watt heater in their ventilation system.
00:11:23 --> 00:11:28: To keep the place warm on those chilly days more
00:11:28 --> 00:11:28: and more.
00:11:29 --> 00:11:33: As the climate heats were installing air source heat pumps
00:11:33 --> 00:11:35: or ground loop pumps,
00:11:35 --> 00:11:37: that sort of thing to make sure we can add
00:11:37 --> 00:11:39: a little bit of cooling in the summertime.
00:11:39 --> 00:11:41: So I think that's a high,
00:11:41 --> 00:11:43: really high level. I won't go any further.
00:11:43 --> 00:11:46: There's a variety of certifications.
00:11:46 --> 00:11:47: Uh, and uh? I mean,
00:11:47 --> 00:11:50: if anyone would really wants to delve in visit our
00:11:50 --> 00:11:51: website,
00:11:51 --> 00:11:53: passive House Canada com,
00:11:53 --> 00:11:55: well that's great and we definitely will share those in
00:11:55 --> 00:11:58: the Lincoln and there are few things in that that
00:11:58 --> 00:12:00: I that it is very helpful for me to pass
00:12:00 --> 00:12:03: it over to Lauren and and just set that stage
00:12:03 --> 00:12:07: is just around Grosvenor having just built and dedicated
00:12:07 --> 00:12:11: Vancouver's
00:12:07 --> 00:12:11: first commercial passive house building which came about as
00:12:11 --> 00:12:14: a
00:12:11 --> 00:12:14: novel way to deliver a community amenity contribution.
00:12:14 --> 00:12:16: And so my so sort of for.
00:12:16 --> 00:12:18: Lauren and and what to pick up on what you've
00:12:18 --> 00:12:19: mentioned Chris around the net.
00:12:19 --> 00:12:22: 0 pathway and the fastest waiting at zero.
00:12:22 --> 00:12:24: Wondering if maybe Lauren could shed shed a bit of
00:12:24 --> 00:12:25: light on sort of.
00:12:25 --> 00:12:28: How does building passive house online with a pursuit of
00:12:28 --> 00:12:31: a net zero pathway or net zero to 2030 plan?
00:12:33 --> 00:12:36: Sure, thanks Patty, Nice to be here everyone this afternoon,
00:12:36 --> 00:12:40: I'm I'm I'm dialing in from from sunny San Diego
00:12:40 --> 00:12:42: so it's it's it's.
00:12:42 --> 00:12:45: It's nice to. It's nice to be talking with folks
00:12:45 --> 00:12:47: across across the border as well.
00:12:47 --> 00:12:52: So just as quick background at Grosvenor made a net
00:12:52 --> 00:12:58: zero carbon commitment that ties us to the year 2030.
00:12:58 --> 00:13:01: And so it's the world Green Building Council's net zero

00:13:01 --> 00:13:02: commitment.

00:13:02 --> 00:13:05: And what that means. Is that by 2030 we will

00:13:06 --> 00:13:10: reduce our carbon emissions in our landlord controlled spaces down

00:13:11 --> 00:13:11: to zero.

00:13:11 --> 00:13:15: That also means that we're extending past the the initial

00:13:15 --> 00:13:15: commitment,

00:13:15 --> 00:13:17: which is just looking at landlord spaces,

00:13:17 --> 00:13:19: and we're also looking at tenant spaces,

00:13:19 --> 00:13:22: so from a residential perspective that means the the places

00:13:23 --> 00:13:25: of buildings live on the commercial side.

00:13:25 --> 00:13:28: That's any commercial tenant that will be renting space from

00:13:28 --> 00:13:28: us.

00:13:28 --> 00:13:31: We're looking at those spaces as well.

00:13:31 --> 00:13:35: We're also incorporating embodied carbon and also our supply chain,

00:13:35 --> 00:13:38: so we're really kind of going beyond the initial world

00:13:38 --> 00:13:41: Green Building Council's commitment to really take a holistic.

00:13:41 --> 00:13:45: Look at how we can reduce our carbon emissions across

00:13:45 --> 00:13:46: our business lines.

00:13:46 --> 00:13:50: So just with that kind of background,

00:13:50 --> 00:13:53: what's been really interesting for for me in terms of

00:13:53 --> 00:13:56: just preparing for this conversation and also talking with our

00:13:56 --> 00:13:57: Vancouver team,

00:13:57 --> 00:13:59: it's really how well past the past aligns with net

00:14:00 --> 00:14:01: zero carbon commitments.

00:14:01 --> 00:14:04: And Chris, I think your you know your your introduction

00:14:04 --> 00:14:08: to talking about some of the components of Passivhaus really

00:14:08 --> 00:14:11: tied up the conversation to be thinking about how developers,

00:14:11 --> 00:14:14: owners, operators can be thinking about,

00:14:14 --> 00:14:16: you know, depending on where they're at in the design

00:14:16 --> 00:14:16: stage.

00:14:16 --> 00:14:19: Of a building, or even with an existing building,

00:14:19 --> 00:14:22: how the energy efficient measures can be can be incorporated

00:14:22 --> 00:14:25: into the design and construction process.

00:14:25 --> 00:14:27: So just as a as a as a quick kind

00:14:27 --> 00:14:29: of example of that,

00:14:29 --> 00:14:32: our our development team in in Vancouver,

00:14:32 --> 00:14:36: in the the experience now of delivering the first commercial

00:14:36 --> 00:14:40: passive House now has this just great repository of experience

00:14:40 --> 00:14:43: and and they you know they've they've worked with the

00:14:43 --> 00:14:47: consultants. They they understand the questions to ask.
00:14:47 --> 00:14:48: Some of the you know,
00:14:48 --> 00:14:50: some of the considerations that they want to kind of
00:14:50 --> 00:14:51: have at the forefront,
00:14:51 --> 00:14:54: and so having these certifications for us to kind of
00:14:55 --> 00:14:58: speak a common language with our design consultants and
our
00:14:58 --> 00:15:02: general contractors really paves the way for rest successful
outcome.
00:15:05 --> 00:15:07: Yes, and by all means I am.
00:15:07 --> 00:15:08: I should have said at the beginning,
00:15:08 --> 00:15:10: you know if there I want it to be conversational
00:15:10 --> 00:15:11: between you,
00:15:11 --> 00:15:13: Chris and Lauren. So if there's something you you know
00:15:13 --> 00:15:14: wanted to add,
00:15:14 --> 00:15:16: I don't. Don't, don't don't need to wait for me
00:15:16 --> 00:15:17: for the question.
00:15:17 --> 00:15:19: Yeah, have it be no,
00:15:19 --> 00:15:21: I I was going to add with Lauren was when
00:15:21 --> 00:15:22: she was talking about certification.
00:15:22 --> 00:15:26: One of the things that is desperately needed right across
00:15:26 --> 00:15:28: the whole 0 emission buildings.
00:15:28 --> 00:15:32: Regardless of what standard you're you're aiming for,
00:15:32 --> 00:15:34: is this need for training.
00:15:34 --> 00:15:40: For professional development and also just a mentoring and
ideas
00:15:40 --> 00:15:41: sharing,
00:15:41 --> 00:15:45: I say this often that.
00:15:45 --> 00:15:47: Passive house crowd. I've got to meet by day.
00:15:47 --> 00:15:49: They can be fierce competitors.
00:15:49 --> 00:15:52: You know bidding on the same projects but after work
00:15:52 --> 00:15:53: they're there.
00:15:53 --> 00:15:56: They are having a cup of coffee or something stronger,
00:15:56 --> 00:15:59: and they're solving solving. They're trying to solve a common
00:15:59 --> 00:16:00: problem,
00:16:00 --> 00:16:04: whether it be a thermal break in an interesting structure
00:16:04 --> 00:16:06: or something like that.
00:16:06 --> 00:16:11: There's a real passion right across this industry for getting
00:16:11 --> 00:16:12: to net zero.
00:16:12 --> 00:16:14: As soon as we possibly can,
00:16:14 --> 00:16:16: it's. It's a great group to be with
00:16:17 --> 00:16:19: you and will share in the chat.
00:16:19 --> 00:16:21: The just so happens at BCIT has a five day

00:16:21 --> 00:16:25: course that that are Vancouver development team went on with

00:16:25 --> 00:16:28: with the trades and you know you know to your

00:16:28 --> 00:16:31: point Chris, it's just the more the more uptake we

00:16:31 --> 00:16:33: can have and I guess that moves me into another

00:16:33 --> 00:16:36: area of questioning that I had just around sort of

00:16:36 --> 00:16:39: scalability and uptake and growth and kind of what what

00:16:39 --> 00:16:42: that looks like from an opportunity or an obstruction perspective.

00:16:42 --> 00:16:45: Your view Chris from, you know the institute and then

00:16:45 --> 00:16:45: I.

00:16:45 --> 00:16:47: And then I'd ask Lauren from a developer view after

00:16:48 --> 00:16:48: that.

00:16:48 --> 00:16:51: Sure. Well, from a passive house the the past two

00:16:52 --> 00:16:55: years I've been on board with passive House since December

00:16:55 --> 00:16:56: of 2019.

00:16:56 --> 00:16:58: So two very interesting years.

00:16:58 --> 00:17:01: But in spite of all that we're facing,

00:17:01 --> 00:17:08: there's been significant growth, massive growth of passive house aficionados

00:17:08 --> 00:17:10: right across Canada.

00:17:10 --> 00:17:16: We now teach from Victoria to Halifax and have.

00:17:16 --> 00:17:20: We have Members and instructors and staff right across the

00:17:20 --> 00:17:25: country and this is because the real growing interest in net zero building.

00:17:25 --> 00:17:26: You know, we find the the training we do and

00:17:29 --> 00:17:32: we we do an awful lot of training because it's

00:17:32 --> 00:17:35: one of the most important ways you can create advocates.

00:17:35 --> 00:17:38: You know when when we put an architect or an

00:17:38 --> 00:17:43: engineer has gone through or building scientists goes through one

00:17:43 --> 00:17:47: of our our designer consultant courses takes about two hours.

00:17:47 --> 00:17:50: And they are the biggest advocates for passive folks out there.

00:17:50 --> 00:17:50: there.

00:17:50 --> 00:17:55: And you know, like your experience with the with the

00:17:55 --> 00:17:56: with trades,

00:17:56 --> 00:17:58: you know our trades courses.

00:17:58 --> 00:18:01: The three day three day program,

00:18:01 --> 00:18:03: because again, we're not talking rocket science,

00:18:03 --> 00:18:06: we're talking building science. And it only takes about 90

00:18:06 --> 00:18:08: minutes into the first day,

00:18:08 --> 00:18:11: and suddenly you've got a group of people who are
00:18:11 --> 00:18:14: very passionate about doing a really good job and being
00:18:14 --> 00:18:17: part of a project that is really special,
00:18:17 --> 00:18:21: so. Education is absolutely critical.
00:18:21 --> 00:18:26: I will say that so real growth and continuing to
00:18:26 --> 00:18:30: grow across the country and happy to do that.
00:18:30 --> 00:18:35: Our organization has seen that growth.
00:18:35 --> 00:18:37: And I think I think I'll leave it there.
00:18:39 --> 00:18:39: Well,
00:18:39 --> 00:18:42: and I think end on that that piece about growth
00:18:42 --> 00:18:44: just from from the developer perspective.
00:18:44 --> 00:18:47: You know with more people beginning to build greener and
00:18:47 --> 00:18:49: making more products available,
00:18:49 --> 00:18:52: you know and and more comparable to say gas powered
00:18:52 --> 00:18:52: options.
00:18:52 --> 00:18:54: Lauren, do you think there is?
00:18:54 --> 00:18:57: There's a premium that we can't get rationalize or or
00:18:58 --> 00:19:01: is it is that is that delta narrowing from the
00:19:01 --> 00:19:02: owners perspective?
00:19:02 --> 00:19:03: Yeah, I mean, I think you know,
00:19:03 --> 00:19:04: I think that there
00:19:04 --> 00:19:07: still is a premium. I think that you know what
00:19:07 --> 00:19:10: what often happens with with technology and I would I
00:19:10 --> 00:19:14: would not put Passivhaus certification necessarily in the
technology bucket,
00:19:14 --> 00:19:17: but I would put all the systems around how to
00:19:17 --> 00:19:20: achieve certification in the technology kind of bucket or it's
00:19:20 --> 00:19:23: it's it's expensive for the first movers it's expensive for
00:19:23 --> 00:19:26: the first adopters you figure out you know the things
00:19:26 --> 00:19:27: that work well.
00:19:27 --> 00:19:30: You figure out the things that are more challenging and
00:19:30 --> 00:19:32: and groups innovate and solve those.
00:19:32 --> 00:19:35: Problems and and I'm sure that you know with with
00:19:35 --> 00:19:37: with and and and in our Vancouver team and some
00:19:37 --> 00:19:39: of the conversations that I've had with them.
00:19:39 --> 00:19:42: You know it's the the the first time you do
00:19:42 --> 00:19:43: a project like this.
00:19:43 --> 00:19:45: Of course it's a learning opportunity.
00:19:45 --> 00:19:46: You know there's there's. There's things,
00:19:46 --> 00:19:48: things you learn along the way and and things that
00:19:48 --> 00:19:50: you've learned from consultants and vice versa.
00:19:50 --> 00:19:53: I mean, I think that it really is a two

00:19:53 --> 00:19:56: way street and I think that as jurisdictions and in
00:19:56 --> 00:19:57: you know,
00:19:57 --> 00:19:59: Vancouver and and the larger province is a great example
00:19:59 --> 00:20:00: of this,
00:20:00 --> 00:20:02: as as jurisdictions are promoting.
00:20:02 --> 00:20:07: More progressive building codes that delta starts to narrow
because
00:20:07 --> 00:20:10: everyone's needing to kind of rise to the occasion and
00:20:10 --> 00:20:14: so I think that the benefit of adopting standards,
00:20:14 --> 00:20:17: whether it's you know whether it's passive house or you
00:20:17 --> 00:20:20: know whether you're going for the full certification or or
00:20:20 --> 00:20:24: kind of just distant still on the spectrum you're building
00:20:24 --> 00:20:26: that team knowledge before you have to.
00:20:26 --> 00:20:28: So I think it's you know there's there's a.
00:20:28 --> 00:20:32: There's a competitive advantage there when you think about.
00:20:32 --> 00:20:35: As a as a developer and an active owner and
00:20:35 --> 00:20:36: operator,
00:20:36 --> 00:20:38: you know we we wanna make sure that our that
00:20:38 --> 00:20:42: our folks have have the resources at their fingertips and
00:20:42 --> 00:20:44: so learning this as early as they can.
00:20:44 --> 00:20:47: Really I think positions us and and and then come
00:20:47 --> 00:20:50: to address legislation kind of proactively as opposed to as
00:20:50 --> 00:20:52: opposed to reactively,
00:20:52 --> 00:20:55: we actually. Yeah, you make a really good point that.
00:20:57 --> 00:21:01: The building sector shouldn't be waiting for government
legislation to
00:21:01 --> 00:21:03: force them to do something right.
00:21:03 --> 00:21:07: We really need the building industry to be out ahead
00:21:07 --> 00:21:11: and there are a number of leading organizations that that
00:21:11 --> 00:21:13: have jumped on board as well.
00:21:13 --> 00:21:15: And I know when we talk about,
00:21:15 --> 00:21:22: you know that delta we're constantly looking for data in
00:21:22 --> 00:21:27: Canada on passive house building because.
00:21:27 --> 00:21:29: And I'm I'm really delighted to say,
00:21:29 --> 00:21:33: say, 10 years ago. I think one of the first
00:21:33 --> 00:21:38: big projects in BC done by BC housing was about
00:21:38 --> 00:21:39: a 20 to 22%
00:21:39 --> 00:21:41: premium to build to passive house,
00:21:41 --> 00:21:44: but it really had to be done to get things
00:21:45 --> 00:21:45: moving.
00:21:45 --> 00:21:50: And you know, one of the latest projects that just
00:21:50 --> 00:21:55: came online in Hamilton ON was YWCA and it was

00:21:55 --> 00:21:57: estimated to be a 10%
00:21:57 --> 00:22:00: premium. Uh, ended up being about a 2%
00:22:00 --> 00:22:06: premium and a 93% energy reduction over code and a
00:22:06 --> 00:22:06: 39%
00:22:06 --> 00:22:09: saving in GHG. So 2%
00:22:09 --> 00:22:14: is a 2% premium. Is,
00:22:14 --> 00:22:16: you know they'll save that money in the first few
00:22:16 --> 00:22:18: months of operating costs.
00:22:18 --> 00:22:22: So for those, especially for those builders who are going
00:22:22 --> 00:22:24: to build and build an owner,
00:22:24 --> 00:22:27: build and maintain, build and run the Passivhaus way is
00:22:27 --> 00:22:28: starting to make more sense.
00:22:28 --> 00:22:33: In fact. Out of the Pennsylvania Housing Authority now says
00:22:33 --> 00:22:37: that the quotes they get to build social housing to
00:22:37 --> 00:22:41: the Passivhaus standard are averaging about 5%
00:22:41 --> 00:22:45: less than code because the passive house builders have
figured
00:22:45 --> 00:22:45: it out.
00:22:45 --> 00:22:48: They do really intensive integrated design.
00:22:48 --> 00:22:50: They do a lot of modular building,
00:22:50 --> 00:22:54: a lot of panelization, and so it's it's really forcing
00:22:54 --> 00:22:58: the industry to think differently about how it does business.
00:22:58 --> 00:22:59: And that's not a bad thing in these.
00:22:59 --> 00:23:00: Times.
00:23:01 --> 00:23:05: Yeah, definitely not. And end on,
00:23:05 --> 00:23:08: you know we heard we heard from Mark Carney that
00:23:08 --> 00:23:10: he's one of my favorite people.
00:23:10 --> 00:23:11: Anyone who knows me well knows that,
00:23:11 --> 00:23:15: but uhm, there's \$130 trillion.
00:23:15 --> 00:23:20: Hovering waiting to sort of land into green green project.
00:23:20 --> 00:23:23: And you know. And so any insight some you know
00:23:23 --> 00:23:24: on,
00:23:24 --> 00:23:27: I guess marketing advantages or otherwise that that we
might
00:23:27 --> 00:23:28: have from say Europe.
00:23:28 --> 00:23:31: Where I, I think, even though the innovation started here,
00:23:31 --> 00:23:33: Chris. I think Europe's ahead,
00:23:33 --> 00:23:36: yeah and Lauren you know jump in for sure about
00:23:36 --> 00:23:39: you know they just have a longer tenure of green
00:23:39 --> 00:23:42: green financing available or under their belt and you know
00:23:42 --> 00:23:45: when we might be able to see some of these
00:23:45 --> 00:23:47: new sources of financing available to us.
00:23:47 --> 00:23:50: You know at scale is that is that going to

00:23:50 --> 00:23:52: come sooner sooner or later and just to kind of
00:23:53 --> 00:23:55: help keep that door open and and have more people
00:23:55 --> 00:23:58: walk through it so that we can see,
00:23:58 --> 00:23:59: you know, demonstrate. Like you said Chris,
00:23:59 --> 00:24:01: these projects where the premiums really.
00:24:01 --> 00:24:03: Or no longer the 20th.
00:24:03 --> 00:24:04: Yeah, the right thing you do
00:24:05 --> 00:24:06: the right thing to do.
00:24:06 --> 00:24:09: Well, I I. You know without A and I'm I'm
00:24:09 --> 00:24:09: I'm.
00:24:09 --> 00:24:12: I'm interested here with Lauren has to say because I
00:24:12 --> 00:24:14: know you guys have done some really exciting stuff so
00:24:14 --> 00:24:17: passive House Canada is always you know we started off
00:24:17 --> 00:24:20: talking about a building standard but over the past couple
00:24:20 --> 00:24:24: of years we've really moved beyond that because the
Passivhaus
00:24:24 --> 00:24:26: standard is is only one part of the problem.
00:24:26 --> 00:24:29: We'll say our solution. It's a technical solution.
00:24:29 --> 00:24:32: We really need to move on government policy.
00:24:32 --> 00:24:36: Government of all levels and we need to move on
00:24:36 --> 00:24:39: in the financial sector because we we fact we have
00:24:39 --> 00:24:42: found that that by and large a lot of the
00:24:42 --> 00:24:47: financial institutions don't understand passive house or
simply don't understand
00:24:47 --> 00:24:48: net zero at all.
00:24:48 --> 00:24:51: And I know, I know that's changing.
00:24:51 --> 00:24:54: It's not changing fast enough as far as as far
00:24:54 --> 00:24:56: as we're concerned.
00:24:56 --> 00:25:00: So you know, we're always reaching out to.
00:25:00 --> 00:25:01: Folks in it's such a,
00:25:01 --> 00:25:03: you know, the finance world is such a big world,
00:25:03 --> 00:25:07: so everything from insurance to to actually financing to who's
00:25:08 --> 00:25:09: doing the valuations.
00:25:09 --> 00:25:12: But I think passive houses always talked about are always
00:25:12 --> 00:25:12: pushed,
00:25:12 --> 00:25:14: sort of that that total ownership,
00:25:14 --> 00:25:17: total cost of building ownership.
00:25:17 --> 00:25:20: And when you start thinking like that it's much easier
00:25:20 --> 00:25:21: to sell.
00:25:21 --> 00:25:24: You can monetize the green aspect of the building so
00:25:24 --> 00:25:27: to speak and for those funds that are looking to
00:25:27 --> 00:25:28: invest in green,

00:25:28 --> 00:25:30: it makes it easier for them to do that.

00:25:30 --> 00:25:33: It also by monetizing that that green aspect of the

00:25:33 --> 00:25:34: building.

00:25:34 --> 00:25:38: You can also quantify the building you know as you

00:25:38 --> 00:25:39: go to sell it,

00:25:39 --> 00:25:41: and you can it. It makes it easier to move

00:25:42 --> 00:25:44: that along as well so you know we still need

00:25:44 --> 00:25:47: to get them all in the room together.

00:25:47 --> 00:25:51: We just ran a tower tower retrofit symposium a couple

00:25:51 --> 00:25:52: of months back,

00:25:52 --> 00:25:56: and we made sure we had finance and government policy

00:25:56 --> 00:25:59: and and technical builders in in,

00:25:59 --> 00:26:01: in, in, in the sessions.

00:26:01 --> 00:26:04: And the thing that struck me coming out of that

00:26:04 --> 00:26:06: was how many people remarked,

00:26:06 --> 00:26:08: you know, it's the first time I had a chance

00:26:08 --> 00:26:10: to sit down with a builder or Anna?

00:26:10 --> 00:26:13: Are you kidding me? Your banks got \$500 million.

00:26:13 --> 00:26:14: They're supposed to be spending this year,

00:26:14 --> 00:26:17: you know? So there's lots of work to do to

00:26:17 --> 00:26:18: try and explain this.

00:26:18 --> 00:26:22: And I know the work that Lauren you know has

00:26:22 --> 00:26:26: done in finances is some things that the rest of

00:26:26 --> 00:26:27: us can learn from.

00:26:27 --> 00:26:30: These are lessons that need to be shared beyond how

00:26:30 --> 00:26:32: you do a thermal break.

00:26:32 --> 00:26:35: Right that the technical stuff we've got that figured out.

00:26:35 --> 00:26:36: It's the rest of the stuff.

00:26:36 --> 00:26:39: Now the government policy, the finance.

00:26:39 --> 00:26:40: Those are the areas we're pushing

00:26:40 --> 00:26:40: on.

00:26:42 --> 00:26:43: Yeah, learn anything bad on that.

00:26:44 --> 00:26:49: Yeah, just just a couple thoughts and Dan couldn't agree

00:26:49 --> 00:26:50: more with Chris.

00:26:50 --> 00:26:53: I think that the concept of the total cost of

00:26:53 --> 00:26:57: ownership is is one that's really important to think about

00:26:57 --> 00:26:59: as opposed to just the upfront cost.

00:26:59 --> 00:27:02: And I think that the the financing aspect of that

00:27:02 --> 00:27:07: does obviously come into play when you're thinking about

00:27:07 --> 00:27:10: interest

00:27:07 --> 00:27:10: rates and you're thinking about terms of construction,

00:27:10 --> 00:27:13: loan terms, permanent loan terms,

00:27:13 --> 00:27:15: the that. Owners and developers get from banks seeing the
00:27:15 --> 00:27:18: other side of this equation is really the capital market
00:27:18 --> 00:27:21: side when you're looking at when you're looking at
partnerships.
00:27:21 --> 00:27:25: And I mean I, I have to say I'm actually
00:27:25 --> 00:27:25: I'm.
00:27:25 --> 00:27:28: I'm down in San Diego at a capital markets conference
00:27:28 --> 00:27:31: right now and I don't think that the the that
00:27:31 --> 00:27:31: a year ago,
00:27:31 --> 00:27:35: the conversations around ESG and net zero were taking front
00:27:35 --> 00:27:38: stage but their front stage right now and and all
00:27:38 --> 00:27:39: the investors who are here,
00:27:39 --> 00:27:42: the managers who are here are asking those questions
around
00:27:42 --> 00:27:44: water groups doing around sustainability.
00:27:44 --> 00:27:47: How are we going to make sure that the portfolios
00:27:47 --> 00:27:49: we own and invest in are resilient,
00:27:49 --> 00:27:52: and so it's I think we're we're I'm.
00:27:52 --> 00:27:55: I'm certainly kind of feeling this wave of interest and
00:27:55 --> 00:27:56: you know,
00:27:56 --> 00:27:58: kind of desire to learn and desire to figure out
00:27:59 --> 00:28:01: how to you know kind of crack the code and
00:28:01 --> 00:28:03: they're certainly not one way of doing it.
00:28:03 --> 00:28:05: You know every project is unique in every jurisdiction,
00:28:05 --> 00:28:06: is different. Every building is different.
00:28:06 --> 00:28:09: So I think that the.
00:28:09 --> 00:28:12: Segmentation of our of our industry is part of the
00:28:12 --> 00:28:12: challenge,
00:28:12 --> 00:28:14: and that's not something that we solve overnight.
00:28:14 --> 00:28:19: I think it's something we'd all solved through smaller
conversations
00:28:19 --> 00:28:21: like we're having here.
00:28:21 --> 00:28:23: On one thing that I'll note on the on the
00:28:23 --> 00:28:24: financing side,
00:28:24 --> 00:28:26: kind of from a from a lending perspective that I
00:28:26 --> 00:28:29: think is really interesting is that the certainly I think
00:28:29 --> 00:28:32: the European banks are more advanced than the northern
northern
00:28:32 --> 00:28:36: American banks. Canadian banks are more advanced than
EU S
00:28:36 --> 00:28:36: banks,
00:28:36 --> 00:28:38: so there's a bit of this kind of tearing,
00:28:38 --> 00:28:41: tearing, approach. That's it's it's happening,

00:28:41 --> 00:28:45: but when I talked to our relationship banks kind of
00:28:45 --> 00:28:48: from from from the EU and Canada and from EU.
00:28:48 --> 00:28:50: S There's a lot of interest in it.
00:28:50 --> 00:28:52: There's a lot of people asking questions about.
00:28:52 --> 00:28:55: What kind of financial products can a bank developed to
00:28:55 --> 00:28:57: help us write help,
00:28:57 --> 00:29:00: help help their clients access these sources of funds?
00:29:00 --> 00:29:03: And I think we're Passivhaus comes into this and where
00:29:03 --> 00:29:03: net zero comes into.
00:29:03 --> 00:29:07: This is if we as owners and owners and managers
00:29:07 --> 00:29:10: of assets can prove and can show to a bank
00:29:10 --> 00:29:14: that a building were constructing or a building or operating
00:29:14 --> 00:29:17: is superior to the market by a certain.
00:29:17 --> 00:29:19: You know, maybe it's in the top 10%
00:29:19 --> 00:29:21: top 15% then I think that we can start to
00:29:22 --> 00:29:23: kind of come up with.
00:29:23 --> 00:29:26: These frameworks that banks can rely on to say OK,
00:29:26 --> 00:29:28: this is where that you know had.
00:29:28 --> 00:29:32: I don't remember the the number but \$130 trillion or
00:29:32 --> 00:29:34: something with the team I heard.
00:29:36 --> 00:29:36: Where
00:29:36 --> 00:29:38: you lose me after the bees once you get into
00:29:38 --> 00:29:39: the trillions.
00:29:39 --> 00:29:40: I've got
00:29:40 --> 00:29:41: how many zeros is that?
00:29:41 --> 00:29:44: Yeah, so I think that that's really where you know
00:29:44 --> 00:29:47: you can start to see kind of the scalability of
00:29:47 --> 00:29:49: some of these ideas as opposed to kind of one
00:29:49 --> 00:29:52: off green financing marketing, you know,
00:29:52 --> 00:29:55: kind of approaches but but but you can start to
00:29:55 --> 00:29:56: see green lines of credit.
00:29:56 --> 00:29:58: You can start to see green green bonds.
00:29:58 --> 00:30:00: Which are you know which which are already kind of
00:30:00 --> 00:30:01: in the marketplace right now.
00:30:03 --> 00:30:08: Yes, there's. There's lots of bad things happening across
Canada
00:30:08 --> 00:30:10: when it comes to climate change.
00:30:10 --> 00:30:12: We have the heat Dome.
00:30:12 --> 00:30:13: We had the weather bomb,
00:30:13 --> 00:30:15: we have the hydro flow.
00:30:15 --> 00:30:18: We have grain busting drought in the in our western
00:30:18 --> 00:30:21: provinces are grain producing provinces.

00:30:21 --> 00:30:25: Incredible wet times in in Central Canada,
00:30:25 --> 00:30:29: high humidity, so many things that that that years ago
00:30:29 --> 00:30:31: we never tide them back to climate change.
00:30:31 --> 00:30:34: You know we're always told never tie a particular event.
00:30:34 --> 00:30:38: To climate change. That's all changed now because the 100
00:30:38 --> 00:30:41: year storms are coming every every year or the once
00:30:41 --> 00:30:43: in 100 year storms now seem to be showing up
00:30:43 --> 00:30:46: every year. So you're right,
00:30:46 --> 00:30:49: it's more and more on the tip of the tongue
00:30:49 --> 00:30:53: of the public and even before Coke 26 it was
00:30:53 --> 00:30:55: growing in the public perception.
00:30:55 --> 00:30:58: Never in my lifetime have I seen the environment and
00:30:58 --> 00:30:59: climate change,
00:30:59 --> 00:31:02: especially, you know, be one of the top one or
00:31:02 --> 00:31:06: two issues at the door during a federal election.
00:31:06 --> 00:31:09: So the public is paying attention and the public is
00:31:09 --> 00:31:10: now seeing forest fires.
00:31:10 --> 00:31:13: Grain drought to those sorts of things are happening.
00:31:16 --> 00:31:18: So it it goes without saying,
00:31:18 --> 00:31:20: you know, but we can't spend all of our time.
00:31:20 --> 00:31:23: Sorry. I was getting running away with all of the
00:31:23 --> 00:31:26: downside of climate change and there is an upside,
00:31:26 --> 00:31:29: will say. And it's one that sort of speaks to
00:31:29 --> 00:31:30: that financing.
00:31:30 --> 00:31:32: And it speaks to the opportunity.
00:31:32 --> 00:31:35: And I get, you know,
00:31:35 --> 00:31:39: when I'm feeling a bit blue about all that climate
00:31:39 --> 00:31:42: change is doing to to the world and to Canada
00:31:42 --> 00:31:46: because we know climate change is not fair.
00:31:46 --> 00:31:50: It affects, though it's very inequitable.
00:31:50 --> 00:31:54: Those folks who are least responsible for creating climate
00:31:54 --> 00:31:56: change
00:31:56 --> 00:32:01: are the ones who are being affected.
00:32:01 --> 00:32:05: The mostly indigenous communities in Canada,
00:32:05 --> 00:32:08: those living in poverty there far more affected by climate
00:32:08 --> 00:32:09: change than than the rest of us.
00:32:09 --> 00:32:14: So I'm I'm well aware of that,
00:32:14 --> 00:32:16: but the opportunity for wealth creation for job creation for
00:32:16 --> 00:32:19: investment is absolutely astronomical.
00:32:19 --> 00:32:20: Not just in the buildings,
00:32:20 --> 00:32:24: but all of the components.
The new components that will supply those buildings I throw

00:32:24 --> 00:32:26: out the because it still staggers me.

00:32:26 --> 00:32:32: Toronto Community Housing Corporation is retrofitting something like 200 towers.

00:32:32 --> 00:32:36: They're the second largest social housing provider in North America,

00:32:36 --> 00:32:37: second only to New York,

00:32:37 --> 00:32:42: New York City. They're doing 200 towers in their first

00:32:42 --> 00:32:42: phase.

00:32:42 --> 00:32:46: They're doing it to the Passivhaus interfit standard.

00:32:46 --> 00:32:48: They're going to achieve. 70 to 75%

00:32:48 --> 00:32:50: energy savings and all of the other things I was

00:32:50 --> 00:32:51: telling you about,

00:32:51 --> 00:32:55: but their first order their first few years,

00:32:55 --> 00:32:57: two or three years of building.

00:32:57 --> 00:33:03: They will need more than 200,000 Passivhaus quality windows.

00:33:03 --> 00:33:05: 200,000. That's just the beginning.

00:33:05 --> 00:33:09: The school boards in the Metro Toronto area will require

00:33:09 --> 00:33:11: another half million windows.

00:33:11 --> 00:33:12: Vancouver is the same thing,

00:33:12 --> 00:33:16: right where all the windows and doors coming from.

00:33:16 --> 00:33:20: I hope that that government understands they should be built,

00:33:20 --> 00:33:23: designed and built right here in Canada.

00:33:23 --> 00:33:26: That if taxpayer dollar is going into any project,

00:33:26 --> 00:33:30: that product needs to be made in the province,

00:33:30 --> 00:33:31: or at least in Canada.

00:33:31 --> 00:33:34: So there's great opportunity and we we know this it

00:33:34 --> 00:33:35: pacifist,

00:33:35 --> 00:33:38: because literally not a day goes by where a manufacturer

00:33:38 --> 00:33:42: from Europe or China doesn't contact us and say hey

00:33:42 --> 00:33:42: so you know,

00:33:42 --> 00:33:45: I hear the Passivhaus world is growing and and how

00:33:46 --> 00:33:47: can we get involved?

00:33:47 --> 00:33:49: First thing I say is well you need to come

00:33:49 --> 00:33:51: and build the plant here because I'm not going to

00:33:51 --> 00:33:53: recommend your products to anyone.

00:33:53 --> 00:33:55: Unless you're making it here,

00:33:55 --> 00:33:58: but that's maybe I'm just being a bit patriotic,

00:33:58 --> 00:34:03: but the opportunity for billions of dollars worth of investment

00:34:04 --> 00:34:06: and thousands of jobs is amazing.

00:34:06 --> 00:34:09: You know. In June of 2018,

00:34:09 --> 00:34:12: when I hung up my hat and and walked out

00:34:12 --> 00:34:15: of the Minister of Environment and Climate Change Office for

00:34:16 --> 00:34:16: the final time.

00:34:16 --> 00:34:21: There were 140,000 people in Ontario directly employed through the

00:34:22 --> 00:34:24: green tech slash clean tech sector,

00:34:24 --> 00:34:27: so not all in the in in the building industry,

00:34:27 --> 00:34:31: but 140,000 people. A lot of them were there because

00:34:31 --> 00:34:33: of government policy.

00:34:33 --> 00:34:36: That really was looking at greening our grid,

00:34:36 --> 00:34:39: etc in all of Canada.

00:34:39 --> 00:34:43: At that time there were less than 180,000 people working

00:34:43 --> 00:34:45: in the automotive industry.

00:34:45 --> 00:34:47: That's tier one and Tier 2.

00:34:47 --> 00:34:52: Automotive manufacturing we you know the green the green world

00:34:52 --> 00:34:54: went from zero to 140.

00:34:54 --> 00:34:58: You know seemingly overnight and I'm sure it continues to

00:34:59 --> 00:35:03: grow so huge opportunity for government to get involved and

00:35:03 --> 00:35:06: to court investment in this country.

00:35:07 --> 00:35:09: And you touched on, retrofits,

00:35:09 --> 00:35:12: and that's maybe something that Lawrence was definitely something Lawrence

00:35:12 --> 00:35:13: looked out.

00:35:13 --> 00:35:15: I'm sure on the pathway they bring it into the

00:35:15 --> 00:35:19: business context and the opportunities within retrofits where we we,

00:35:19 --> 00:35:21: you know, I think, sometimes I know when we when

00:35:21 --> 00:35:22: I first spoke Chris I,

00:35:22 --> 00:35:25: I thought there was just one passive House certification and

00:35:25 --> 00:35:25: that was it.

00:35:25 --> 00:35:27: And you have. But there's a whole range,

00:35:27 --> 00:35:30: and, you know, retrofit, fitting in and and as you

00:35:30 --> 00:35:30: say,

00:35:30 --> 00:35:32: you know just the amount of building stock that's there

00:35:32 --> 00:35:35: that could get refurbish and lots of case studies underwear

00:35:35 --> 00:35:35: that's done.

00:35:35 --> 00:35:36: And you know, again, more.

00:35:36 --> 00:35:40: And just on the. Investment portfolio and how we're tackling

00:35:41 --> 00:35:44: that as a way of addressing the current stock and

00:35:44 --> 00:35:47: greening that to a point that is going to be

00:35:47 --> 00:35:50: in in alignment with our our net zero ambitions.

00:35:50 --> 00:35:52: So there's lots of opportunity there.

00:35:52 --> 00:35:54: There there is, you know,

00:35:54 --> 00:35:55: on the if I can jump in again.

00:35:55 --> 00:35:58: And sorry Lauren III I I really I I want
00:35:58 --> 00:35:59: to hear from you as well,
00:35:59 --> 00:36:03: but I'm really excited about all the opportunity I see
00:36:03 --> 00:36:04: again challenges.
00:36:04 --> 00:36:07: But to me it's it's all magnificent opportunity for job
00:36:07 --> 00:36:09: creation addressing client,
00:36:09 --> 00:36:14: the climate challenge, etc. The Tower Retrofit Symposium we
ran,
00:36:14 --> 00:36:19: we are in a partnership with the National Tower Retrofit
00:36:19 --> 00:36:20: Partnership.
00:36:20 --> 00:36:25: I believe it's called and their their report on the
00:36:25 --> 00:36:27: potential for tower retrofits.
00:36:27 --> 00:36:33: There's something they say there's about 10,000 towers.
00:36:33 --> 00:36:35: Residential towers built in Canada,
00:36:35 --> 00:36:38: 70s eighties. Sort of early 90s that are now at
00:36:38 --> 00:36:40: the end of their life.
00:36:40 --> 00:36:43: In terms of facade, windows balconies,
00:36:43 --> 00:36:46: that sort of thing. All the mechanicals need to be
00:36:46 --> 00:36:47: replaced,
00:36:47 --> 00:36:50: so now it's an opportunity.
00:36:50 --> 00:36:54: There is an incredible opportunity to do deep energy retrofits
00:36:54 --> 00:36:55: on that building.
00:36:55 --> 00:36:57: I mean, if we're going in and pulling Windows out,
00:36:57 --> 00:37:01: why not put a high quality triple pane passive post
00:37:01 --> 00:37:02: type window in?
00:37:02 --> 00:37:06: Why not take that? Opportunity to put better insulation and
00:37:06 --> 00:37:10: better heating and cooling systems in air filtration systems.
00:37:10 --> 00:37:13: And now's the time you've got the building there.
00:37:13 --> 00:37:17: You're working on it. Incredible opportunity,
00:37:17 --> 00:37:20: right? Across the country, 10,000 buildings.
00:37:20 --> 00:37:24: And frankly, if we don't address as a nation the
00:37:24 --> 00:37:26: deep energy retrofits of these towers,
00:37:26 --> 00:37:30: we will not get to our targets are our Paris
00:37:30 --> 00:37:32: accord targets,
00:37:32 --> 00:37:33: you know, with all the focus.
00:37:33 --> 00:37:36: On new build, that's great.
00:37:36 --> 00:37:38: That's wonderful. We need that regulation.
00:37:38 --> 00:37:42: We need that expertise, but the the secret is that
00:37:42 --> 00:37:45: we also have to deal with retrofits,
00:37:45 --> 00:37:48: and there's a bigger savings in the tower retrofits than
00:37:48 --> 00:37:51: there is in doing a bunch of individual homes across
00:37:51 --> 00:37:52: the country.

00:37:53 --> 00:37:56: Yeah, and I'll just kind of provide my perspective on
00:37:56 --> 00:37:59: it with the work that we're doing across our investment
00:37:59 --> 00:38:00: portfolio,
00:38:00 --> 00:38:04: which is fairly well diversified from a geographic and also
00:38:04 --> 00:38:06: from an asset perspective.
00:38:06 --> 00:38:07: So we're not, you know,
00:38:07 --> 00:38:10: we don't only own Class A office buildings,
00:38:10 --> 00:38:11: right? But we own residential,
00:38:11 --> 00:38:17: retail commercial across our across our our markets and just
00:38:17 --> 00:38:21: kind of taking a step back the the most.
00:38:21 --> 00:38:24: If you're looking holistically at carbon emissions.
00:38:24 --> 00:38:27: The the best thing to do is to keep a
00:38:27 --> 00:38:28: building online.
00:38:28 --> 00:38:29: It's not just write down,
00:38:29 --> 00:38:31: it's not to build something new and its place.
00:38:31 --> 00:38:33: Certainly not if it's the same size,
00:38:33 --> 00:38:37: but it's really the increase the life of the the,
00:38:37 --> 00:38:39: the the lifetime of the building.
00:38:39 --> 00:38:43: Through smart capital expenditures through kind of proactive
you know
00:38:43 --> 00:38:44: maintenance.
00:38:44 --> 00:38:48: Not having that deferred maintenance creep up too high too
00:38:49 --> 00:38:49: quickly.
00:38:49 --> 00:38:51: And with that it's it's.
00:38:51 --> 00:38:55: It's also. It's also not.
00:38:55 --> 00:38:57: I think it's in the end and so yeah,
00:38:57 --> 00:38:59: keeping it at a high level first,
00:38:59 --> 00:39:03: kind of. The retrofits is such an important part of
00:39:03 --> 00:39:03: the pie,
00:39:03 --> 00:39:06: it's that such an important part of the solution and
00:39:06 --> 00:39:09: getting down into some of the some of the details,
00:39:09 --> 00:39:11: some of the challenges, and I think some of the
00:39:11 --> 00:39:14: things that I'm finding challenging just in looking at our
00:39:14 --> 00:39:15: portfolio,
00:39:15 --> 00:39:17: is you don't want to go out and shorten the
00:39:17 --> 00:39:20: length of life of a specific system just to make
00:39:20 --> 00:39:23: it more energy efficient 'cause you think of the embodied
00:39:23 --> 00:39:28: carbon in that system. So if we had just replaced
00:39:28 --> 00:39:30: a HVAC system two years ago,
00:39:30 --> 00:39:32: we don't want to just do it again.
00:39:32 --> 00:39:34: You know, even if it would be more energy efficient,
00:39:34 --> 00:39:36: we want to kind of extend the length of that

00:39:36 --> 00:39:37: system.
00:39:37 --> 00:39:41: But when the systems are scheduled to be retrofitted,
00:39:41 --> 00:39:42: that's exactly the time. And Chris,
00:39:42 --> 00:39:44: I think this is what you're what you're learning too.
00:39:44 --> 00:39:47: That's exactly the time where when you make that decision,
00:39:47 --> 00:39:51: that's when you make the most efficient decision from an
00:39:51 --> 00:39:53: from an energy use perspective.
00:39:53 --> 00:39:56: So I think that you know understanding the schedule.
00:39:56 --> 00:39:58: Of an existing asset systems,
00:39:58 --> 00:40:01: understanding the age understanding you know throughout
the teams kind
00:40:02 --> 00:40:05: of what the capital expenditure plan is for each asset,
00:40:05 --> 00:40:06: and that's hard. I mean,
00:40:06 --> 00:40:08: that's that. There's not like a systematized approach to doing
00:40:08 --> 00:40:09: that,
00:40:09 --> 00:40:10: because a lot of the a lot of the buildings
00:40:10 --> 00:40:12: out there are 40 years old and we don't know
00:40:12 --> 00:40:14: is that we don't have all the information.
00:40:14 --> 00:40:17: Some of it's a bit of forensics in trying trying
00:40:17 --> 00:40:19: to trying to figure it out,
00:40:19 --> 00:40:22: but I think not losing sight of the fact that
00:40:22 --> 00:40:26: that the embodied carbon already in the system is.
00:40:26 --> 00:40:27: Or you know, kind of,
00:40:27 --> 00:40:31: UM, lengthening as really, really,
00:40:31 --> 00:40:34: as long as we can as an important part,
00:40:34 --> 00:40:36: and I II saw in some of the one of
00:40:36 --> 00:40:39: the one of the questions that want to have the,
00:40:39 --> 00:40:40: UM, one of the folks listening.
00:40:40 --> 00:40:41: And it's at is how do I,
00:40:41 --> 00:40:43: how, how? How do I,
00:40:43 --> 00:40:46: you know, look at my my own single family home,
00:40:46 --> 00:40:48: or how do we look at at at,
00:40:48 --> 00:40:50: you know, smaller buildings and.
00:40:50 --> 00:40:53: I don't think we should ignore that segment of the
00:40:53 --> 00:40:53: market either,
00:40:53 --> 00:40:55: because so many of us do live in single family
00:40:55 --> 00:40:55: homes.
00:40:55 --> 00:40:58: Whether or not that's the most you know,
00:40:58 --> 00:41:00: land use, you know, most friendly land use practice.
00:41:00 --> 00:41:01: A lot of us do,
00:41:01 --> 00:41:04: myself included. So I'm thinking about how to bring this
00:41:04 --> 00:41:06: down and and I don't have a solution for this.

00:41:06 --> 00:41:08: Chris, I don't know if you do,
00:41:08 --> 00:41:10: but it looks like this participant is asking for some
00:41:11 --> 00:41:11: resources.
00:41:11 --> 00:41:14: Then you know what? What can individual homeowners do?
00:41:14 --> 00:41:17: What can you know? Are there things renters can do?
00:41:17 --> 00:41:19: I don't. Again, I don't.
00:41:19 --> 00:41:22: I don't, I I'm. Just throwing the ball into your
00:41:23 --> 00:41:23: court.
00:41:23 --> 00:41:24: With that stuffy,
00:41:25 --> 00:41:27: you know, even though I had passive house Canada,
00:41:27 --> 00:41:29: I do not live in a passive house.
00:41:29 --> 00:41:33: My house is a brick house built in 1964.
00:41:33 --> 00:41:37: When oil was cheap and insulation was pretty much unheard
00:41:37 --> 00:41:38: of.
00:41:38 --> 00:41:41: So that's my way of saying that the house I
00:41:41 --> 00:41:42: purchased.
00:41:44 --> 00:41:49: 2728 years ago. Was not an energy efficient home,
00:41:49 --> 00:41:51: so people are looking for things to do.
00:41:51 --> 00:41:55: I could and I've kicked this idea around with some
00:41:55 --> 00:41:57: of our interfit experts.
00:41:57 --> 00:42:01: My hosts. We would have to put big panels around
00:42:01 --> 00:42:04: the outside to put nice thick insulation in.
00:42:04 --> 00:42:08: We'd have to redo the whole basement and insulate.
00:42:08 --> 00:42:11: Ain't going to happen. I'm not going to put a
00:42:11 --> 00:42:14: hundred \$120,000 into a house that was built in 1964
00:42:14 --> 00:42:15: and the minute I,
00:42:15 --> 00:42:16: my wife and I sell,
00:42:16 --> 00:42:18: it will be knocked down in a.
00:42:18 --> 00:42:21: In a big mansion, probably built in its place so
00:42:21 --> 00:42:24: that talks about the embodied carbon that that that you
00:42:24 --> 00:42:27: were addressing earlier on how much money do you put
00:42:27 --> 00:42:29: into a building? What? How much carbon do you put
00:42:29 --> 00:42:30: into a building?
00:42:30 --> 00:42:32: If it's just going to be knocked down?
00:42:32 --> 00:42:35: But there's a whole host of things we can be
00:42:35 --> 00:42:35: doing,
00:42:35 --> 00:42:38: and especially in a, uh,
00:42:38 --> 00:42:41: you know, if you're in a warmer climate like Vancouver,
00:42:41 --> 00:42:43: I live. I live in Ontario,
00:42:43 --> 00:42:46: actually north of Toronto, it's a bit of the snow
00:42:46 --> 00:42:46: belt.
00:42:46 --> 00:42:52: Definitely chillier than. Then our office passive post office in

00:42:52 --> 00:42:53: Victoria.

00:42:53 --> 00:42:55: So there's some really simple things people can do.

00:42:55 --> 00:42:58: They can start off by making sure there's lots of

00:42:58 --> 00:42:59: insulation in their attic,

00:42:59 --> 00:43:03: you know. Go to their local hardware store and get

00:43:03 --> 00:43:06: get a contractor to come and blow in.

00:43:06 --> 00:43:08: You know this much insulation.

00:43:08 --> 00:43:11: You can replace Windows. Do you have to replace them

00:43:11 --> 00:43:12: with Passivhaus quality windows?

00:43:12 --> 00:43:15: No, that would be a waste of money quite frankly,

00:43:15 --> 00:43:18: but you can put much better windows in.

00:43:18 --> 00:43:20: You can make sure that.

00:43:20 --> 00:43:23: Those windows are installed by a company that knows what

00:43:23 --> 00:43:23: it's doing,

00:43:23 --> 00:43:28: 'cause a good window installed badly creates all sorts of

00:43:28 --> 00:43:31: leaks and your house is drafty and uncomfortable.

00:43:31 --> 00:43:35: You can replace your fossil fuel building,

00:43:35 --> 00:43:41: burning of of furnace, perhaps with air source heat pump

00:43:41 --> 00:43:42: technology.

00:43:42 --> 00:43:44: So there's these kinds of things you can do,

00:43:44 --> 00:43:47: or at least get an air source heat pump that

00:43:47 --> 00:43:49: ties into your forced air gas furnace.

00:43:49 --> 00:43:52: There are these. These kinds of things we can all

00:43:52 --> 00:43:55: do well my I'm slowly we're doing this and at

00:43:55 --> 00:43:58: my place and we're getting new doors in a couple

00:43:58 --> 00:44:00: of months that will be much better quality than the

00:44:00 --> 00:44:01: leaky ones we have now.

00:44:01 --> 00:44:05: So it's a journey you don't have to do everything

00:44:05 --> 00:44:06: the first day,

00:44:06 --> 00:44:09: but this house will never be passive house.

00:44:09 --> 00:44:13: And as the price of carbon continues to get higher

00:44:13 --> 00:44:15: and higher and higher,

00:44:15 --> 00:44:19: the cost to live here will will increase no matter

00:44:19 --> 00:44:20: what we do.

00:44:20 --> 00:44:23: The other thing you can do is get rid of

00:44:23 --> 00:44:26: your natural gas fired hot water tank and put an

00:44:26 --> 00:44:30: electric air source heat pump water tank in so there's

00:44:30 --> 00:44:32: a whole bunch of stuff you can do.

00:44:32 --> 00:44:35: I I always say you know most of what needs

00:44:35 --> 00:44:37: to be done in an older house like mine,

00:44:37 --> 00:44:39: you can find it at your Home Depot store.

00:44:39 --> 00:44:42: You know, like you can go to Lowe's and and

00:44:42 --> 00:44:46: you can get it there you can you conceal you
00:44:46 --> 00:44:47: can seal the cracks.
00:44:47 --> 00:44:50: You can talk to a good window manufacturer.
00:44:50 --> 00:44:52: Doesn't have to be exotic,
00:44:52 --> 00:44:55: but there are all sorts of simple things you can
00:44:55 --> 00:44:55: do.
00:44:55 --> 00:44:56: And uh,
00:44:56 --> 00:44:59: and are there are? Are there passive House standards for
00:44:59 --> 00:45:01: single family homes?
00:45:01 --> 00:45:01: Chris, that's just
00:45:01 --> 00:45:05: yes. Yeah yeah. The there are our retrofit standards is
00:45:05 --> 00:45:06: called interfit,
00:45:06 --> 00:45:12: and it applies just like the Passivhaus standard or standards
00:45:12 --> 00:45:16: apply to all shapes and sizes of buildings,
00:45:16 --> 00:45:19: which makes it a real challenge sometimes too.
00:45:19 --> 00:45:23: If you're doing something like the Clayton Community Center,
00:45:23 --> 00:45:26: you know the largest passive folks.
00:45:26 --> 00:45:28: Face in in North America.
00:45:28 --> 00:45:30: I think now, perhaps even the world,
00:45:30 --> 00:45:35: or you're building a 40 story wood hybrid tower in
00:45:35 --> 00:45:37: Vancouver versus a you know,
00:45:38 --> 00:45:43: a single family residence. They all have to get to
00:45:43 --> 00:45:44: that 15 kW.
00:45:44 --> 00:45:47: Per per square meter per year,
00:45:47 --> 00:45:48: they'll have to get there.
00:45:50 --> 00:45:51: So to get to the house,
00:45:51 --> 00:45:53: it's it's. It's you know,
00:45:53 --> 00:45:55: the one of the chaps.
00:45:55 --> 00:45:56: Just a bit of a Side Story.
00:45:56 --> 00:45:59: But I go back to our Saskatchewan roots,
00:45:59 --> 00:46:01: a chat by then in an engineer,
00:46:01 --> 00:46:06: an amazing engineer by the name of Harold or who's
00:46:06 --> 00:46:07: 93 I think.
00:46:07 --> 00:46:09: He and his buddies came up with a system for
00:46:10 --> 00:46:11: single family homes.
00:46:11 --> 00:46:16: They called it the the Prairie chainsaw renovation or retrofit.
00:46:16 --> 00:46:18: It's a little scary sounding,
00:46:18 --> 00:46:21: but they do this with with homes in the prairies
00:46:21 --> 00:46:24: that are primarily stick built and it's fairly simple to
00:46:24 --> 00:46:24: do.
00:46:24 --> 00:46:28: And as Harold tells me everything they use,
00:46:28 --> 00:46:30: they buy at their local hardware store.

00:46:30 --> 00:46:34: They're not importing expensive components from Europe,
00:46:34 --> 00:46:36: and so there's lots of things.
00:46:36 --> 00:46:37: There are lots of things.
00:46:37 --> 00:46:39: We can do, but you know Lauren,
00:46:39 --> 00:46:42: you were talking about. You know what?
00:46:42 --> 00:46:45: We're not going to replace an HVAC system with a
00:46:45 --> 00:46:46: new one because it's 5%
00:46:46 --> 00:46:51: more energy efficient. And I absolutely agree with you.
00:46:51 --> 00:46:53: I look at a place in Hamilton.
00:46:53 --> 00:46:54: I go to Hamilton Hamilton.
00:46:54 --> 00:46:57: Believe it or not, it is very quietly becoming one
00:46:57 --> 00:47:01: of the lead cities in North America for pacifist.
00:47:01 --> 00:47:04: And if those on the web and are interested,
00:47:04 --> 00:47:08: the facility is called the Ken Soble Tower social housing.
00:47:08 --> 00:47:13: It's the largest residential retrofit done to date.
00:47:13 --> 00:47:14: I may even say in in.
00:47:14 --> 00:47:18: Certainly in North America. But you know,
00:47:18 --> 00:47:21: they didn't know what they were getting into till they
00:47:21 --> 00:47:23: opened up the walls and then all their plans on
00:47:23 --> 00:47:24: how to enter fit.
00:47:24 --> 00:47:28: The place went right out the door because of mold
00:47:28 --> 00:47:29: and other issues so.
00:47:29 --> 00:47:33: But what started the conversation was the owner said we
00:47:33 --> 00:47:35: should just tear this place down.
00:47:35 --> 00:47:37: It was built like back in the 60s and but
00:47:37 --> 00:47:39: when they do the carbon calculation,
00:47:39 --> 00:47:43: the embodied carbon calculation. No you can't.
00:47:43 --> 00:47:46: We we know how to fix this and and there's
00:47:46 --> 00:47:48: a variety of of standards.
00:47:48 --> 00:47:52: To get there, you know I'm partial to Passivhaus and
00:47:53 --> 00:47:53: INTERFET,
00:47:53 --> 00:47:56: but we can't continue on with the North American mentality
00:47:56 --> 00:47:59: of just throw it out and build something new.
00:47:59 --> 00:48:00: We can't do that,
00:48:00 --> 00:48:02: Chris. I'm going to jump in just before we move
00:48:02 --> 00:48:04: to questions 'cause there's one one big one.
00:48:04 --> 00:48:07: I wanted to just touch on before we before we
00:48:07 --> 00:48:10: go and that is that the recognition that passive House
00:48:10 --> 00:48:12: Canada has just had as by the UN as a
00:48:12 --> 00:48:15: center of excellence for high performance buildings.
00:48:15 --> 00:48:18: That was a big deal that was announced at Copan.
00:48:18 --> 00:48:20: There by joining this global network.

00:48:20 --> 00:48:23: UM, no hardware issue and and so we're just wondering
00:48:23 --> 00:48:27: like the meaning and significance for for passive House
Canada.
00:48:27 --> 00:48:29: And again, just some of the things you're talking about.
00:48:29 --> 00:48:31: Is this going to help amplify the message in a
00:48:31 --> 00:48:32: way that will get to,
00:48:32 --> 00:48:34: you know more people? Yeah,
00:48:34 --> 00:48:36: what does that mean for passive House Canada being being
00:48:36 --> 00:48:37: recognized in that way?
00:48:37 --> 00:48:41: Well, yeah, I'll say tongue in cheek that I think
00:48:41 --> 00:48:44: it was a way of having the UN ensure that
00:48:44 --> 00:48:46: we continue to work with them.
00:48:46 --> 00:48:47: Passive house cat passive House,
00:48:47 --> 00:48:53: Canada in particular. We're the largest Passivhaus
organization right now
00:48:53 --> 00:48:54: in the world,
00:48:54 --> 00:48:57: the that that's tied directly to pH.
00:48:57 --> 00:48:59: I we we educate more people.
00:48:59 --> 00:49:04: We get more people certified than any other pacifist group,
00:49:04 --> 00:49:06: and part of our commitment to not just Canada,
00:49:06 --> 00:49:09: but to the world is to network,
00:49:09 --> 00:49:12: to share information, to facilitate conversations,
00:49:12 --> 00:49:15: and we've been doing that since our our beginning.
00:49:15 --> 00:49:19: We we have representatives who sit on a couple of
00:49:19 --> 00:49:20: United Nations.
00:49:20 --> 00:49:23: Committees that are looking at energy standards.
00:49:23 --> 00:49:29: Housing comfort. We get involved with symposiums where
we're talking
00:49:29 --> 00:49:29: to uh,
00:49:29 --> 00:49:34: folks from Eastern European nations and.
00:49:34 --> 00:49:38: Most recently, we've signed an MOU with passive post Latin
00:49:38 --> 00:49:43: America to share our knowledge and help them develop
education
00:49:43 --> 00:49:47: and training because they have to meet the Paris Accord
00:49:47 --> 00:49:50: commitments as well, and they've got a lot of work
00:49:50 --> 00:49:51: to do,
00:49:51 --> 00:49:54: so we've always looked beyond the borders of Canada,
00:49:54 --> 00:49:59: and it was delightful to have the UN recognized the
00:49:59 --> 00:50:04: work we're doing and call us a center of excellence.
00:50:04 --> 00:50:05: So it's a big deal.
00:50:06 --> 00:50:08: Wonderful thank you for addressing that.
00:50:08 --> 00:50:10: Over the past year to Duncan is going to,
00:50:10 --> 00:50:12: uh, address some of the questions in the chat and

00:50:12 --> 00:50:14: I will get a bit more out of you guys
00:50:14 --> 00:50:15: before we leave at the top of the hour
00:50:15 --> 00:50:17: here. Yeah,
00:50:17 --> 00:50:19: thanks Patty and so I think you know I can.
00:50:19 --> 00:50:23: There's a couple of questions there that I think I
00:50:23 --> 00:50:25: can mold into two to one or sort of 1
00:50:25 --> 00:50:25: theme.
00:50:25 --> 00:50:28: And Chris you kind of touched on it and so
00:50:28 --> 00:50:28: I might.
00:50:28 --> 00:50:31: I might kick the first question to you and then
00:50:31 --> 00:50:32: Lauren.
00:50:32 --> 00:50:34: I think the second question would be really valuable to
00:50:34 --> 00:50:36: get your both of your perspective,
00:50:36 --> 00:50:36: but maybe you can take.
00:50:36 --> 00:50:38: Just lead on a second one,
00:50:38 --> 00:50:41: but the first one is just and like I said
00:50:41 --> 00:50:43: you test on Chris this idea that I think a
00:50:44 --> 00:50:46: lot of people see this as a chore,
00:50:46 --> 00:50:49: right? Certainly in the private sector this is something that
00:50:49 --> 00:50:51: we don't really want to do and or or you
00:50:51 --> 00:50:53: know kind of talked about in a bit of an
00:50:53 --> 00:50:56: amorphous singer only by people who you know kind of
00:50:56 --> 00:50:58: want to take a leadership role,
00:50:58 --> 00:51:01: but it's obviously in addition to be something we have
00:51:01 --> 00:51:03: to do from a climate action perspective,
00:51:03 --> 00:51:05: you it's an economic opportunity,
00:51:05 --> 00:51:09: certainly for cities. Provinces and Canada,
00:51:09 --> 00:51:11: let alone elsewhere in the world.
00:51:11 --> 00:51:13: And yet it seems to be a struggle to to
00:51:13 --> 00:51:16: convince you or find a way to have it seen
00:51:16 --> 00:51:19: as an economic thing in the in the public discourse.
00:51:19 --> 00:51:21: Certainly from a political perspective,
00:51:21 --> 00:51:22: and as a former politician,
00:51:22 --> 00:51:23: I'm sure you can appreciate that.
00:51:23 --> 00:51:26: So what do you think could be done to try
00:51:26 --> 00:51:29: and get this into the discourse of government into the
00:51:30 --> 00:51:31: discourse of private sector,
00:51:31 --> 00:51:34: not as this sort of laborious thing that we all
00:51:34 --> 00:51:34: got?
00:51:34 --> 00:51:36: We got to put another regulation in to make buildings
00:51:36 --> 00:51:37: more hard to build.
00:51:37 --> 00:51:39: They're too expensive to build in the first place,

00:51:39 --> 00:51:40: too. Like if we do this,
00:51:40 --> 00:51:43: we're going to be ahead of the game and sort
00:51:43 --> 00:51:46: of setting an economic future that benefits all of us,
00:51:46 --> 00:51:53: right, right? Well, you know the there's for large buildings,
00:51:54 --> 00:51:59: there are. There are incentives that a variety of municipalities
00:51:59 --> 00:52:01: are putting in play,
00:52:01 --> 00:52:06: or they're making the path the pathway to to permitting
00:52:06 --> 00:52:07: easier.
00:52:07 --> 00:52:11: If you're going to pass Defense Route,
00:52:11 --> 00:52:13: you know we we we when I say we governments
00:52:13 --> 00:52:15: in general municipal,
00:52:15 --> 00:52:19: provincial, federal need to make it easier to build to
00:52:19 --> 00:52:24: this net zero standard regardless of the standard the
government
00:52:24 --> 00:52:25: needs to to make it.
00:52:25 --> 00:52:29: Easier to get there and and and and governments of
00:52:29 --> 00:52:33: all levels need to understand that the world is on
00:52:33 --> 00:52:34: fire.
00:52:34 --> 00:52:37: You know. I mean, when I talked to Bill pardon
00:52:37 --> 00:52:38: or flooding,
00:52:38 --> 00:52:40: if you're in bed or flooding,
00:52:40 --> 00:52:42: yeah, you're you're well and and and so much of
00:52:42 --> 00:52:45: the flooding in some parts of DC was because the
00:52:45 --> 00:52:47: ground cover it all been burnt over the past two
00:52:47 --> 00:52:50: years of fires. So you know so.
00:52:53 --> 00:52:56: I think I think there's paralysis by analysis happening a
00:52:56 --> 00:52:59: bit too much and you know Passivhaus is here to
00:52:59 --> 00:53:02: say like we figured out the technical stuff years ago.
00:53:02 --> 00:53:04: Man, like you want some help will help you do
00:53:04 --> 00:53:05: it.
00:53:05 --> 00:53:08: It's it's. It's no longer a technical barrier,
00:53:08 --> 00:53:11: especially in Canada and in EU S where we've got
00:53:11 --> 00:53:14: some of the brightest minds in the world,
00:53:14 --> 00:53:17: the brightest architects and engineers.
00:53:17 --> 00:53:18: And as Lauren is saying,
00:53:18 --> 00:53:21: you know, some of the brighter financial brains that are
00:53:21 --> 00:53:23: trying to wrap their mind around it.
00:53:23 --> 00:53:26: There's no excuse now. The the the,
00:53:26 --> 00:53:31: the you know what's holding us back is.
00:53:31 --> 00:53:34: You know it from a political perspective is,
00:53:34 --> 00:53:38: I think that the public knows climate change is is
00:53:38 --> 00:53:39: is here,

00:53:39 --> 00:53:41: but they don't quite know what to do with it
00:53:41 --> 00:53:44: and there's a real lack of overall leadership telling,
00:53:44 --> 00:53:47: you know, putting some great options forward.
00:53:47 --> 00:53:51: And I say this in a nonpartisan way all across
00:53:51 --> 00:53:52: the country.
00:53:52 --> 00:53:55: You know, I see polls that say climate change,
00:53:55 --> 00:53:58: one that came out just last week by Nanos Research
00:53:58 --> 00:54:01: that climate change is the number one issue.
00:54:01 --> 00:54:05: It's the only issue. In in public discourse that unites
00:54:05 --> 00:54:07: all all demographics,
00:54:07 --> 00:54:10: you know all ages. We all agree,
00:54:10 --> 00:54:14: but here's the thing, none of us want to spend
00:54:14 --> 00:54:15: more than \$100 a year.
00:54:15 --> 00:54:18: And and so you know you want to cry,
00:54:18 --> 00:54:21: but you know what can you do well?
00:54:21 --> 00:54:23: And I think that gets 2 to the second question.
00:54:23 --> 00:54:25: And and maybe Lauren you could you could take a
00:54:25 --> 00:54:26: stab at it,
00:54:26 --> 00:54:29: as as someone who works for a private developer who
00:54:29 --> 00:54:31: would need to be spending this money.
00:54:31 --> 00:54:33: You know one of the one of the attendees here.
00:54:33 --> 00:54:36: And I I certainly notice in in my day job.
00:54:36 --> 00:54:38: You know what? Whatever the percentage it is,
00:54:38 --> 00:54:39: depending on where you are,
00:54:39 --> 00:54:42: hard costs are already going out for traditional buildings,
00:54:42 --> 00:54:44: let alone you know whether that's sort of new or
00:54:44 --> 00:54:45: wood frame or low rise.
00:54:45 --> 00:54:47: Buildings or you know, and let you know.
00:54:47 --> 00:54:50: I can certainly speak for it at high rise buildings
00:54:50 --> 00:54:51: as well,
00:54:51 --> 00:54:54: and so you know we're already is the private sector
00:54:54 --> 00:54:57: has its in on adding more in terms of costs
00:54:57 --> 00:55:01: because building is just so expensive to build right now.
00:55:01 --> 00:55:03: So what are the strongest argument points that you know
00:55:03 --> 00:55:05: in your casing brokers case?
00:55:05 --> 00:55:08: Potentially that could try and convince yourselves?
00:55:08 --> 00:55:11: Or companies like ours to go to passive house and
00:55:11 --> 00:55:13: and in a tangible way you know the attendee here
00:55:13 --> 00:55:14: points out you know.
00:55:14 --> 00:55:17: Is it better financing? Terms what kind of rebates would
00:55:17 --> 00:55:17: it be?
00:55:17 --> 00:55:19: You know? I think there's a lot of talk about

00:55:19 --> 00:55:19: polio.

00:55:19 --> 00:55:21: Save this much costs on your energy,

00:55:21 --> 00:55:24: but you know that that that's been around forever and

00:55:24 --> 00:55:24: we all take.

00:55:24 --> 00:55:25: You know if you're up here,

00:55:25 --> 00:55:28: y'all. Take advantage of BC Hydro's lighting retrofit program
or

00:55:28 --> 00:55:29: something like that,

00:55:29 --> 00:55:30: but passing houses so much more than that.

00:55:30 --> 00:55:33: So what are your thoughts on how do we tackle

00:55:33 --> 00:55:35: the fact that hard costs already going up?

00:55:35 --> 00:55:37: And in theory, these buildings are more expensive?

00:55:39 --> 00:55:42: Yeah, I mean there's not a single silver bullet,

00:55:42 --> 00:55:45: right? I mean, I think it's when I think of

00:55:45 --> 00:55:45: a pro forma,

00:55:45 --> 00:55:48: I think of UM, the cost side,

00:55:48 --> 00:55:50: the OpEx side, the revenue side,

00:55:50 --> 00:55:54: the time horizon, your capital sources,

00:55:54 --> 00:55:58: and it's really understanding how something like passive
house or

00:55:58 --> 00:55:58: net zero.

00:55:58 --> 00:56:04: Uhm, can impact positively. Sometimes you know sometimes
higher costs

00:56:04 --> 00:56:05: absolutely,

00:56:05 --> 00:56:07: and I think that that's true,

00:56:07 --> 00:56:10: but how something like passive house or something like in

00:56:10 --> 00:56:14: that zero standard or commitment will kind of slowly start

00:56:14 --> 00:56:15: to close the gap.

00:56:15 --> 00:56:17: So I think that it's it is.

00:56:17 --> 00:56:20: It is energy costs, it is operating expenses.

00:56:20 --> 00:56:25: It is looking at those kind of controllable controllable costs.

00:56:25 --> 00:56:29: But it's also looking at lower financing I think.

00:56:29 --> 00:56:31: Some of these things are are,

00:56:31 --> 00:56:33: I think, just on the verge of happening,

00:56:33 --> 00:56:36: so I haven't seen a lot of US or Canadian

00:56:36 --> 00:56:36: loans.

00:56:36 --> 00:56:41: Price in a lower interest rate premium for a green

00:56:41 --> 00:56:42: product,

00:56:42 --> 00:56:45: but I think that if or if we're talking to

00:56:45 --> 00:56:47: banks that are serious,

00:56:47 --> 00:56:49: that's what they're going to need to do to start

00:56:49 --> 00:56:51: to kind of get some of that flow happening.

00:56:51 --> 00:56:54: So I think that. Yeah,

00:56:54 --> 00:57:00: so so. Low, hopefully lower financing from banks on loan
00:57:00 --> 00:57:01: terms.
00:57:01 --> 00:57:04: I think lower lower OpEx,
00:57:04 --> 00:57:10: UM, some jurisdictions, and some communities will
accelerate entitlements or
00:57:10 --> 00:57:11: approvals,
00:57:11 --> 00:57:15: or permitting with kind of making these commitments.
00:57:15 --> 00:57:20: So from the time horizon perspective there's there's that
potentially
00:57:20 --> 00:57:23: higher revenues from occupants.
00:57:23 --> 00:57:25: I think we're seeing that more on the commercial side
00:57:25 --> 00:57:26: then we are in the residential.
00:57:26 --> 00:57:29: Side, but I wouldn't be surprised if soon we start
00:57:29 --> 00:57:29: to see.
00:57:29 --> 00:57:32: So I mean, we're already getting more questions about
occupant
00:57:32 --> 00:57:33: health,
00:57:33 --> 00:57:34: and I know that that Passivhaus,
00:57:34 --> 00:57:37: generally, you know, prioritizes occupant health,
00:57:37 --> 00:57:39: but whether it's that well or or,
00:57:39 --> 00:57:43: well, certification, I think that that's gonna that's gonna drive
00:57:43 --> 00:57:45: premiums on the revenue side.
00:57:45 --> 00:57:47: And finally, and and and not to.
00:57:47 --> 00:57:51: Not to belabor this, but but I think depending on
00:57:51 --> 00:57:52: a group.
00:57:52 --> 00:57:56: Uhm? Kind of capital sources.
00:57:56 --> 00:57:58: I think in the very near term there will be
00:57:58 --> 00:58:01: investors who just won't invest with groups that aren't doing
00:58:01 --> 00:58:01: this.
00:58:01 --> 00:58:04: So how do you price that in?
00:58:04 --> 00:58:05: That's just not having a project,
00:58:05 --> 00:58:09: right or not, having not having a pool of partner
00:58:09 --> 00:58:11: capital that you can draw from.
00:58:11 --> 00:58:14: So that I think is harder to quantify on a
00:58:14 --> 00:58:16: single project pro forma basis.
00:58:16 --> 00:58:20: But uhm, if you're if a company's growth projections are
00:58:20 --> 00:58:24: heavily tide to partnership and the partners are,
00:58:24 --> 00:58:28: you're soliciting such as Canadian pension funds have their
own,
00:58:28 --> 00:58:33: their own thoughts and their own requirements or
certifications,
00:58:33 --> 00:58:35: or for net zero or ESG or any of the
00:58:35 --> 00:58:36: sustainability,

00:58:36 --> 00:58:39: however broad, whatever terms you're using.
00:58:39 --> 00:58:42: If you as an operator or manager aren't incorporating those.
00:58:42 --> 00:58:45: To get those dollars, they're going to go somewhere else,
00:58:45 --> 00:58:46: then come over to us,
00:58:46 --> 00:58:49: you know. But uhm, no joking.
00:58:49 --> 00:58:51: Kind of dumb, but no so.
00:58:51 --> 00:58:53: I mean, there's you know it's it's really.
00:58:53 --> 00:58:56: It's really kind of looking at it from a full
00:58:56 --> 00:58:58: performance perspective.
00:58:58 --> 00:58:58: Yeah,
00:58:58 --> 00:59:00: I think that's interesting. You bring that up and and
00:59:00 --> 00:59:01: we've run out of time,
00:59:01 --> 00:59:03: so I'm going to give everyone the last word.
00:59:03 --> 00:59:06: I'll hand it to Patty to usher that in.
00:59:06 --> 00:59:08: But this is actually a topic that I know a
00:59:08 --> 00:59:12: colleague of mine at a company called Manifest Climate
Kevin
00:59:12 --> 00:59:13: and I have been trying to we.
00:59:13 --> 00:59:16: We planned it in the new year range on that
00:59:16 --> 00:59:17: very topic of this,
00:59:17 --> 00:59:20: where financial institutions and lenders and investors going in
terms
00:59:20 --> 00:59:23: of money and and there we see a big difference
00:59:23 --> 00:59:24: between the UK,
00:59:24 --> 00:59:26: Canada, EU S in the revolution of that and if
00:59:26 --> 00:59:27: it comes down,
00:59:27 --> 00:59:29: perhaps that's the silver bullet.
00:59:29 --> 00:59:31: Oh wait, you can't get financing because this is the
00:59:31 --> 00:59:34: way of the world now and you got to be
00:59:34 --> 00:59:37: in green projects or passive house projects are not zero
00:59:37 --> 00:59:38: projects or close to it.
00:59:38 --> 00:59:40: I mean that that certainly will be a pretty big
00:59:40 --> 00:59:40: incentive.
00:59:40 --> 00:59:42: Of course time is money,
00:59:42 --> 00:59:44: so anything that will expedite permits is always makes.
00:59:44 --> 00:59:46: Makes makes all of us happy.
00:59:46 --> 00:59:48: But I do. I do want to pass back for
00:59:48 --> 00:59:48: a final comment.
00:59:48 --> 00:59:50: Patty, I don't know if you had something to wrap
00:59:50 --> 00:59:51: up as our hoster?
00:59:51 --> 00:59:52: Yeah
00:59:52 --> 00:59:53: no. Just just on. I mean,
00:59:53 --> 00:59:55: we're on a really good theme here around the financing.

00:59:55 --> 00:59:58: And just to say, I know HSBC is definitely stated
00:59:58 --> 00:59:59: an ambition to.
00:59:59 --> 01:00:01: The net zero bank? That's one example,
01:00:01 --> 01:00:04: Scotiabank two, has green bonds that they they allocate to
01:00:04 --> 01:00:05: eligible greenhouse.
01:00:05 --> 01:00:07: So there there is the information out there,
01:00:07 --> 01:00:09: so it's just great to start the conversation.
01:00:09 --> 01:00:10: I I will just pass it off to see if
01:00:10 --> 01:00:12: Lauren or Chris have any closing words,
01:00:12 --> 01:00:16: and thank you. Thank you both so much for the
01:00:16 --> 01:00:16: insights.
01:00:17 --> 01:00:19: Sure, no, just happy to be here.
01:00:19 --> 01:00:20: Thanks for thanks for hosting us.
01:00:21 --> 01:00:23: Yeah and I'll say happy to be here.
01:00:23 --> 01:00:24: Thank you for hosting us.
01:00:24 --> 01:00:28: Really interested. You know, Duncan as you move through
01:00:29 --> 01:00:30: that
01:00:30 --> 01:00:32: to financing work,
01:00:32 --> 01:00:35: we'd love to be a fly on the wall and
01:00:35 --> 01:00:37: share that with our networks as well.
01:00:38 --> 01:00:39: And you know, the final thing I'd just leave with
01:00:39 --> 01:00:44: people is that you know by 2045,
01:00:44 --> 01:00:47: maybe even by 2040. The Canadian National Building Code
01:00:47 --> 01:00:49: will
01:00:49 --> 01:00:51: in essence be a passive house net zero code.
01:00:51 --> 01:00:52: It's not called passive host,
01:00:52 --> 01:00:54: but when you look at the the building science behind
01:00:54 --> 01:00:58: the requirements,
01:00:58 --> 01:00:59: it is in essence pacifist.
01:00:59 --> 01:01:01: So get on board and get on board today.
01:01:01 --> 01:01:04: Learn how to do it.
01:01:04 --> 01:01:09: Learn how to build to net zero.
01:01:09 --> 01:01:10: It only gets more expensive year over year.
01:01:10 --> 01:01:12: So learn today. The first project will give you Gray
01:01:12 --> 01:01:15: hair,
01:01:15 --> 01:01:16: but the projects after that get easier and easier.
01:01:16 --> 01:01:18: So thanks again for inviting passive House Canada to be
01:01:18 --> 01:01:19: here.
01:01:19 --> 01:01:21: Well that's great. Well thank you thanks thanks so 3
01:01:21 --> 01:01:23: Patty.
01:01:21 --> 01:01:23: Chris and Lauren for joining us and you know,
01:01:21 --> 01:01:23: I think like I said at the jump,

01:01:23 --> 01:01:25: I think this is a conversation.
01:01:25 --> 01:01:27: Well this specific one, but sort of the more macro
01:01:27 --> 01:01:30: conversation around how we're going to adjust the way we
01:01:30 --> 01:01:32: build our buildings and our cities to tackle.
01:01:32 --> 01:01:34: You know whether it's net zero or climate change or
01:01:34 --> 01:01:37: climate action and adaptation is going to be important.
01:01:37 --> 01:01:38: Of course, you're more than welcome.
01:01:38 --> 01:01:40: And if we want maybe we can cross promote events
01:01:40 --> 01:01:42: because I think the more we need to get this
01:01:42 --> 01:01:44: more in the conversation and more in the course.
01:01:44 --> 01:01:46: And I know it's something that you lie from a
01:01:47 --> 01:01:49: sort of global perspective cares a lot about.
01:01:49 --> 01:01:52: And it's certainly something we we care about here at
01:01:52 --> 01:01:55: U LIBC and I'm sure my my colleagues right across
01:01:55 --> 01:01:55: you,
01:01:55 --> 01:01:57: like Canada, would agree so not.
01:01:57 --> 01:01:59: Not not the first conversation you had.
01:01:59 --> 01:02:00: It certainly won't be the last,
01:02:00 --> 01:02:02: but thanks again for joining us.
01:02:02 --> 01:02:04: And thanks to all of our again.
01:02:04 --> 01:02:06: And as always, thanks to all of our sponsors.
01:02:06 --> 01:02:08: And for those of you who joined us and stuck
01:02:08 --> 01:02:10: with us a bit over time and we hope you'll
01:02:10 --> 01:02:12: you'll join us at a future event.
01:02:12 --> 01:02:14: Whether it's a couple of things we have left for
01:02:14 --> 01:02:15: this year,
01:02:15 --> 01:02:18: I think otherwise will be back in January and the
01:02:18 --> 01:02:19: Q1 of 2022.
01:02:19 --> 01:02:22: Lots of programming, so thanks again for joining us thanks
01:02:22 --> 01:02:23: to our panel and we'll see you all soon.
01:02:24 --> 01:02:26: Thank you. Thank you everyone.
01:02:26 --> 01:02:27: Bye bye.

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