

# Webinar

## ULI Toronto: Decarbonizing Toronto

Date: January 12, 2022

00:00:04 --> 00:00:06: Hello everyone, good afternoon and welcome as people start to

00:00:07 --> 00:00:07: trickle in,

00:00:07 --> 00:00:11: we're going to play our ULI Toronto's new membership video.

00:00:29 --> 00:00:31: Having the ability to.

00:00:31 --> 00:00:32: Exchange

00:00:32 --> 00:00:34: stories, exchange ideas and

00:00:34 --> 00:00:36: and really sort of find mentors

00:00:36 --> 00:00:39: in the industry via ULI was a huge plus for

00:00:39 --> 00:00:40: me.

00:00:40 --> 00:00:42: So one of the things that I first started doing

00:00:42 --> 00:00:42: with you,

00:00:42 --> 00:00:42: a lie

00:00:43 --> 00:00:44: in terms of active engagement with their urban

00:00:44 --> 00:00:46: planning program. And

00:00:46 --> 00:00:48: for me that's they basically

00:00:48 --> 00:00:50: go into schools and work with them.

00:00:50 --> 00:00:51: Young people in junior high and high school.

00:00:51 --> 00:00:53: One of the great things about you lie is that

00:00:53 --> 00:00:55: it provides a great platform

00:00:55 --> 00:00:58: for public sector and private sector interests to meet with

00:00:58 --> 00:01:01: an opportunity to connect with a variety of people from

00:01:01 --> 00:01:03: a variety of different disciplines.

00:01:03 --> 00:01:04: So I work in real estate development,

00:01:04 --> 00:01:07: but it's useful and important to get to know people

00:01:07 --> 00:01:09: in other aspects of city building,

00:01:09 --> 00:01:13: opportunity, get recognition the opportunity to participate in my community

00:01:13 --> 00:01:15: and give back in a way all

00:01:15 --> 00:01:19: of those things have enhanced my career and I think

00:01:19 --> 00:01:22: enhance what I'm able to offer the industry.

00:01:22 --> 00:01:22: And

00:01:22 --> 00:01:24: I'm really excited to be part of your life,

00:01:24 --> 00:01:29: Toronto. And really advancing my leadership skills and foster my

00:01:29 --> 00:01:34: connections and really just advancing my mission for city building

00:01:34 --> 00:01:36: was a young professional. View to the province,

00:01:36 --> 00:01:39: and I found you a lie and other kind of

00:01:39 --> 00:01:43: similar organizations really helpful in terms of bridging connections and

00:01:43 --> 00:01:47: networking is an opportunity to connect with people

00:01:47 --> 00:01:48: who have questions.

00:01:48 --> 00:01:51: Who are who have not quite

00:01:51 --> 00:01:52: figured out how to do things,

00:01:52 --> 00:01:54: and I liked how hands on

00:01:54 --> 00:01:55: you could be as a member.

00:01:55 --> 00:01:57: You could get involved immediately.

00:01:57 --> 00:01:59: You can volunteer for me,

00:01:59 --> 00:01:59: you'll.

00:01:59 --> 00:02:02: I is one of the greatest organizations in the world,

00:02:02 --> 00:02:06: and certainly in Toronto to connect to learn.

00:02:06 --> 00:02:09: And to become a part of an organization that really

00:02:09 --> 00:02:10: values its people

00:02:10 --> 00:02:11: and its members.

00:02:21 --> 00:02:24: Good afternoon everyone. My name is Ashley Patton.

00:02:24 --> 00:02:27: I'm a senior planner at both Fields and I'm pleased

00:02:27 --> 00:02:30: to welcome you all to today's session Decarbonizing Toronto.

00:02:30 --> 00:02:34: Today we will be exploring the investment operations and ESG

00:02:34 --> 00:02:40: implications of Toronto's 2021 policy initiatives that combined will be

00:02:40 --> 00:02:43: remembered as Toronto's very green year.

00:02:43 --> 00:02:45: As a Toronto region based organization,

00:02:45 --> 00:02:48: we acknowledge that the land we are meeting on virtually

00:02:48 --> 00:02:51: is the traditional territory of many nations,

00:02:51 --> 00:02:53: including the Mississauga's of the credit,

00:02:53 --> 00:02:56: the initial knob, the Chippewa,

00:02:56 --> 00:02:58: the Hodonin, Shawnee and the wind at Peoples,

00:02:58 --> 00:03:01: and is now home to many diverse First Nations.

00:03:01 --> 00:03:05: Inuit and Metis peoples. We also acknowledge that Toronto is

00:03:05 --> 00:03:09: covered by Treaty 13 with the Mississauga's of the credit.

00:03:09 --> 00:03:10: We are all treaty people.

00:03:10 --> 00:03:13: Many of us have come here as settlers.

00:03:13 --> 00:03:17: Immigrants and newcomers in this generation or generations past you

00:03:17 --> 00:03:21: will like Toronto stands in solidarity with indigenous communities demanding

00:03:21 --> 00:03:25: action and accountability for the ongoing legacy of the residential

00:03:25 --> 00:03:29: school system. We'd like to also acknowledge and honor those

00:03:29 --> 00:03:31: who have come here involuntarily.

00:03:31 --> 00:03:34: Particularly descendants from those who were brought here through enslavement

00:03:34 --> 00:03:38: to better understand the meaning behind this land acknowledgement.

00:03:38 --> 00:03:41: We recommend for programs that we have uploaded to YouTube.

00:03:41 --> 00:03:43: These links are available in the chat.

00:03:46 --> 00:03:49: A few housekeeping items before we begin.

00:03:49 --> 00:03:53: Everyone will automatically be muted throughout the session to avoid

00:03:53 --> 00:03:54: audio interference.

00:03:54 --> 00:03:58: Closed captioning is available for this session and you can

00:03:58 --> 00:04:00: access it via the button along the bottom of the

00:04:00 --> 00:04:01: zoom platform.

00:04:01 --> 00:04:02: If you have any questions,

00:04:02 --> 00:04:06: please use the Q&A function or upvote questions by pressing the thumbs up button.

00:04:06 --> 00:04:08:

00:04:08 --> 00:04:10: We anticipate that this program will generate a lot of

00:04:11 --> 00:04:13: questions and we won't be able to answer them all,

00:04:13 --> 00:04:17: unfortunately, but these are all important to capture so that

00:04:17 --> 00:04:20: they can be used to inform future programming by both

00:04:21 --> 00:04:23: you like Toronto and the City of Toronto.

00:04:23 --> 00:04:26: This is a recorded session and the recording will be

00:04:26 --> 00:04:28: sent to you afterwards.

00:04:28 --> 00:04:30: If you want to take the conversation online,

00:04:30 --> 00:04:32: please tag us with the handle at you like Toronto

00:04:32 --> 00:04:34: or with the hashtag.

00:04:34 --> 00:04:38: Ask great questions. Today's event and all other UI programming

00:04:38 --> 00:04:42: would not be possible without the support of our annual

00:04:42 --> 00:04:43: sponsors.

00:04:43 --> 00:04:45: I would like to say a major thank you to

00:04:45 --> 00:04:47: all of them for their support now more than ever.

00:04:47 --> 00:04:50: You will like. Toronto relies on the support of our  
 00:04:50 --> 00:04:52: sponsors who allow us to put on the quality programming  
 00:04:53 --> 00:04:55: that we do and to drive our mission to shape  
 00:04:55 --> 00:04:58: the future of the built environment for transformative impact  
 in  
 00:04:58 --> 00:05:01: communities worldwide to all of them,  
 00:05:01 --> 00:05:03: we say thank you. I would like to add an  
 00:05:03 --> 00:05:06: extra thank you to Cadillac Fairview,  
 00:05:06 --> 00:05:08: the annual sponsor of the CONNECT committee.  
 00:05:08 --> 00:05:11: And we thank them for their continued support of our  
 00:05:11 --> 00:05:13: committee's activities.  
 00:05:13 --> 00:05:16: It is now my sincere pleasure to introduce today's moderator,  
 00:05:16 --> 00:05:20: Kirk Johnson, President of Eco efficiency Consulting Kirk,  
 00:05:20 --> 00:05:21: over to you.  
 00:05:28 --> 00:05:32: That's a neat myself. Hello everyone and welcome to you  
 00:05:32 --> 00:05:36: allies session we had this year with the City of  
 00:05:36 --> 00:05:37: Toronto,  
 00:05:37 --> 00:05:39: a brand new target net Zero 2040,  
 00:05:39 --> 00:05:43: along with a flurry of policy announcements that were  
 completed  
 00:05:44 --> 00:05:45: in December 14th.  
 00:05:45 --> 00:05:48: In addition to the ones that were done in the  
 00:05:48 --> 00:05:49: fall of 2021.  
 00:05:49 --> 00:05:52: Today I have it's my pleasure to bring the leads  
 00:05:52 --> 00:05:55: from many of the divisions of the City of Toronto  
 00:05:55 --> 00:05:57: and unless we can go to the next slide in  
 00:05:57 --> 00:06:02: that. I can introduce them and they will be here  
 00:06:02 --> 00:06:08: to explain and unpack the ESG sustainability and  
 decarbonization implications  
 00:06:08 --> 00:06:12: of all of these policy announcements.  
 00:06:12 --> 00:06:14: In order we have Cecilia Fernandez,  
 00:06:14 --> 00:06:17: who is the acting manager of policy and research at  
 00:06:17 --> 00:06:18: the City of Toronto,  
 00:06:18 --> 00:06:22: followed by Lisa King, who will be presenting on TSG.  
 00:06:22 --> 00:06:25: And she is the senior policy planner of environment and  
 00:06:25 --> 00:06:29: strategic initiatives at the City of Toronto Planning Division  
 that  
 00:06:29 --> 00:06:31: is responsible for we have Stewart dust fields,  
 00:06:31 --> 00:06:35: acting manager and new Dad from public energy initiatives  
 that  
 00:06:35 --> 00:06:39: covers the existing buildings in the City of Toronto.  
 00:06:39 --> 00:06:40: And last but not least,  
 00:06:40 --> 00:06:43: Howlin Mullally. Who is the manager of corporate real

estate?

00:06:43 --> 00:06:45: Who will be unpacking for us?

00:06:45 --> 00:06:49: How the city is leading by example on decarbonization and

00:06:49 --> 00:06:53: helping us get to the net zero target by 2040.

00:06:53 --> 00:06:57: If we could bring on Cecilia slides as I explained

00:06:57 --> 00:07:01: the format for today today we will be doing an

00:07:01 --> 00:07:06: initial comments format where all four presenters will be giving

00:07:06 --> 00:07:10: a 6 minute presentation covering the highlights followed by a

00:07:10 --> 00:07:11: three to six question.

00:07:11 --> 00:07:16: Open panel discussion where we unpack the new build existing

00:07:16 --> 00:07:21: buildings policy and leadership by example issues surrounding the Carbonizing

00:07:21 --> 00:07:22: Toronto by 2040.

00:07:22 --> 00:07:25: I want to give time for the Q&A,

00:07:25 --> 00:07:29: so please add your questions early and off into the

00:07:29 --> 00:07:33: QA chat and we'll try and integrate those into the

00:07:33 --> 00:07:34: panel discussion.

00:07:34 --> 00:07:39: Cecilia, Are you ready and able to give us the

00:07:39 --> 00:07:42: policy update on the City of Toronto?

00:07:42 --> 00:07:45: Yes I am. Overkill.

00:07:47 --> 00:07:50: Thank you Kirk, and and thanks everyone for inviting us

00:07:50 --> 00:07:52: to speak to this great group today.

00:07:52 --> 00:07:56: We're very pleased to be able to share with you,

00:07:56 --> 00:07:59: you know, awesome highlights of our new net zero strategy

00:07:59 --> 00:08:03: and also dig into some of those details through some

00:08:03 --> 00:08:04: of the other presenters.

00:08:04 --> 00:08:08: So I'm going to. I'm going to give you some

00:08:08 --> 00:08:11: of the highlights so you can go to the next

00:08:11 --> 00:08:11: slide.

00:08:11 --> 00:08:16: So the title of our strategy is called transform to

00:08:16 --> 00:08:18: critical steps for.

00:08:18 --> 00:08:22: Net 0 by 2040 and we presented this strategy on

00:08:22 --> 00:08:27: December 15th when it was actually adopted by City Council.

00:08:27 --> 00:08:31: And what it does is actually set out a new

00:08:31 --> 00:08:36: community wide target of net zero emissions greenhouse gas emissions

00:08:36 --> 00:08:38: by the year 2040,

00:08:38 --> 00:08:42: and that this actually makes us one of only three

00:08:42 --> 00:08:46: big cities in North America with that ambitious target.

00:08:46 --> 00:08:51: Our existing 2030 target is already quite ambitious,

00:08:51 --> 00:08:54: so it is a 65%

00:08:54 --> 00:08:59: reduction of greenhouse gas emissions by the year 2030.  
00:08:59 --> 00:09:02: And what you'll see in our presentation is that we  
00:09:02 --> 00:09:05: maintain that the things that we have done in the  
00:09:05 --> 00:09:05: past,  
00:09:05 --> 00:09:09: so the actions that we were passed in the 1st  
00:09:09 --> 00:09:13: transform 2 OVERPORT in 2017 are not really dissimilar  
from  
00:09:13 --> 00:09:17: what we've presented in the short term implementation  
actions and  
00:09:17 --> 00:09:22: the targets that are articulated in our 2040 Net Zero  
00:09:22 --> 00:09:23: report as well.  
00:09:23 --> 00:09:28: Our next slide, please. So just to give you a  
00:09:28 --> 00:09:32: quick background on where we're at.  
00:09:32 --> 00:09:37: So again, in 2019 we measured it about 15.6 megatons  
00:09:37 --> 00:09:39: of greenhouse gas emissions,  
00:09:39 --> 00:09:44: and they're broken down into three main categories of  
emissions.  
00:09:44 --> 00:09:46: So 57% come from buildings,  
00:09:46 --> 00:09:50: a game that does come from a natural gas in  
00:09:50 --> 00:09:52: heating of buildings,  
00:09:52 --> 00:09:57: 36% in transportation, and that really does come from  
gasoline,  
00:09:57 --> 00:10:00: vehicles or passenger vehicles. And light duty trucks,  
00:10:00 --> 00:10:04: and then the third category is our waste emissions mainly  
00:10:05 --> 00:10:07: coming from city landfills.  
00:10:07 --> 00:10:08: And on the right hand side,  
00:10:08 --> 00:10:12: you'll see overtime how those missions,  
00:10:12 --> 00:10:16: how those emissions are divided over time and what you'll  
00:10:16 --> 00:10:20: see that even though we are reducing our emissions so  
00:10:21 --> 00:10:24: overtime we are reaching our 2020 target.  
00:10:24 --> 00:10:28: Of 30% reductions of emissions from 1990 levels.  
00:10:28 --> 00:10:30: So currently we're measuring at a 38%  
00:10:30 --> 00:10:34: reduction, but what you'll see over those bar graphs is  
00:10:34 --> 00:10:37: there were not really changing that much.  
00:10:37 --> 00:10:40: So in terms of us being able to just kind  
00:10:40 --> 00:10:43: of keep keeping pace with our population growth,  
00:10:43 --> 00:10:47: we are doing that. But we are acting so incrementally  
00:10:47 --> 00:10:50: that it's not enough to put us on that net  
00:10:50 --> 00:10:54: 0 trajectory and and that's the recommendations in our  
report.  
00:10:54 --> 00:11:00: Next slide, please. So the the report is organized around  
00:11:00 --> 00:11:05: 5 critical steps that we've identified in order to reach  
00:11:05 --> 00:11:07: our ambition.

00:11:07 --> 00:11:10: So the first one is really about the city demonstrating  
00:11:10 --> 00:11:13: carbon accountability both locally and globally,  
00:11:13 --> 00:11:17: and we intend to do this by establishing a carbon  
00:11:17 --> 00:11:17: budget.  
00:11:17 --> 00:11:21: So many cities around the world leading cities have done  
00:11:21 --> 00:11:23: this in order to use that as a way to  
00:11:23 --> 00:11:25: be carbon accountable.  
00:11:25 --> 00:11:28: So we intend to establish this budget to track climate  
00:11:28 --> 00:11:29: actions against.  
00:11:29 --> 00:11:33: Annual emissions limits to drive that accountability.  
00:11:33 --> 00:11:38: And so every year will be measuring our actions against  
00:11:38 --> 00:11:41: those limits until we achieve net zero.  
00:11:41 --> 00:11:44: And during that process we'll be able to then really  
00:11:44 --> 00:11:48: hone in on those gaps in action and identify where  
00:11:48 --> 00:11:52: those solutions need to be proposed and implemented.  
00:11:52 --> 00:11:55: The second critical step is to accelerate a rapid and  
00:11:55 --> 00:11:58: significant reduction in natural gas.  
00:11:58 --> 00:12:02: So here we're getting at that heat that is in  
00:12:02 --> 00:12:05: buildings predominantly.  
00:12:05 --> 00:12:07: So we want to reduce or limit that use of  
00:12:08 --> 00:12:08: natural gas,  
00:12:08 --> 00:12:11: and we've got some good starts on this one.  
00:12:11 --> 00:12:14: So we are working through a reduction of consumption in  
00:12:14 --> 00:12:15: our buildings.  
00:12:15 --> 00:12:21: We are working through placing conventional heating  
00:12:21 --> 00:12:25: systems either through district energy or through more efficient electric heat pumps  
00:12:25 --> 00:12:26: in some buildings.  
00:12:26 --> 00:12:30: And we are going to be looking at limiting the  
00:12:30 --> 00:12:35: expansion of natural gas systems and or reversing them  
00:12:35 --> 00:12:36: where it's possible.  
00:12:36 --> 00:12:39: We've started with some city owned assets in terms of  
00:12:40 --> 00:12:41: reducing natural gas,  
00:12:41 --> 00:12:44: and I think our colleague Holland will talk about  
00:12:45 --> 00:12:45: that later.  
00:12:45 --> 00:12:48: And we're also beginning new projects where we have city  
00:12:48 --> 00:12:51: assets that can be available to the Community.  
00:12:51 --> 00:12:54: So I'll talk a little bit about sewer heat recovery  
00:12:54 --> 00:12:55: later as well.  
00:12:55 --> 00:12:57: We also have the advantage of being a lake.  
00:12:57 --> 00:13:02: We have a lake based exchange at geothermal system and

00:13:02 --> 00:13:06: Lisa will talk again about some of our activities.

00:13:06 --> 00:13:08: In the Toronto Green Standard,

00:13:08 --> 00:13:11: which also helps us to get to that acceleration of

00:13:11 --> 00:13:12: reduction of natural gas.

00:13:14 --> 00:13:18: The third category is establishing performance,

00:13:18 --> 00:13:21: building targets, and so to do this we need to

00:13:21 --> 00:13:27: accelerate councils already adopted existing buildings plan which was adopted

00:13:27 --> 00:13:30: in July of 2021 and so we want to set

00:13:30 --> 00:13:34: those requirements to address building performance so that there's a

00:13:34 --> 00:13:35: clear path to.

00:13:35 --> 00:13:39: Net 0. A fourth we are focusing again on our

00:13:39 --> 00:13:42: second biggest source of emissions,

00:13:42 --> 00:13:46: which is transportation. So we want to increase access to

00:13:46 --> 00:13:48: local carbon transportation options,

00:13:48 --> 00:13:53: including walking, biking, public transit and electric vehicles,

00:13:53 --> 00:13:58: and so we'll continue to increase the use of active

00:13:58 --> 00:14:02: and public transportation in order to reduce emissions.

00:14:02 --> 00:14:06: And also to reduce congestion while at the same time

00:14:06 --> 00:14:09: promoting equity in health benefits.

00:14:09 --> 00:14:11: And as you'll see from our plan,

00:14:11 --> 00:14:14: there is a big focus on electric vehicles.

00:14:14 --> 00:14:19: So looking at those incentives and disincentives to really promote

00:14:19 --> 00:14:23: or motivate the uptake of EV's in the city to

00:14:23 --> 00:14:26: replace gasoline or diesel vehicles.

00:14:26 --> 00:14:29: And then lastly, we do want to increase our ability

00:14:29 --> 00:14:33: to produce our own energy renewable energy within the city

00:14:33 --> 00:14:36: so that we can contribute to our resilient carbon free

00:14:36 --> 00:14:39: grid. And so to do this,

00:14:39 --> 00:14:42: we're going to be have to work with our utility

00:14:42 --> 00:14:46: Toronto Hydro in order to support the growth and prosperity

00:14:46 --> 00:14:47: of the city.

00:14:47 --> 00:14:52: Through reliable, uninterrupted electric service provision,

00:14:52 --> 00:14:55: we also want to make sure that we increase with

00:14:55 --> 00:15:00: opportunities where we can do more local renewable energy generation

00:15:00 --> 00:15:02: to be located in the city boundary.

00:15:02 --> 00:15:08: Next slide, please. So just in terms of a target,

00:15:08 --> 00:15:13: Orient reorientation from our previous target so Council during the

00:15:13 --> 00:15:17: climate emergency had first said that they wanted us to



00:15:17 --> 00:15:19: reach a net 0 by 2050 target,  
00:15:19 --> 00:15:23: and we did pass in December the change of that  
00:15:23 --> 00:15:24: target to a.  
00:15:24 --> 00:15:28: Net 0 by 2040. So that's ten years ahead of  
00:15:29 --> 00:15:34: what was the the Council adopted target in 2021.  
00:15:34 --> 00:15:38: So we've established some new sector based targets for  
2030  
00:15:38 --> 00:15:41: and again the focus of our report you'll see is  
00:15:41 --> 00:15:44: around the 20-30 years because it is a very ambitious  
00:15:44 --> 00:15:47: target and so we want to set ourselves up on  
00:15:47 --> 00:15:48: the right path.  
00:15:48 --> 00:15:53: So what you'll see in the documentation is that there's  
00:15:53 --> 00:15:57: a lot of focus and specific actions and outcomes that  
00:15:57 --> 00:16:00: are planned for report back in 2030.  
00:16:00 --> 00:16:04: We're sending an interim target for 2025 again,  
00:16:05 --> 00:16:08: just as that. Check in to see where we are  
00:16:09 --> 00:16:10: in terms of our 65%,  
00:16:11 --> 00:16:13: so we're setting a 45%  
00:16:13 --> 00:16:17: reduction target in 2025. And then what we've included,  
00:16:17 --> 00:16:22: as I mentioned before, is a short term implementation plan  
00:16:22 --> 00:16:25: which covers the years 2022 to 2025,  
00:16:25 --> 00:16:28: and it details many different actions,  
00:16:29 --> 00:16:32: and all of those vectors in order to achieve that  
00:16:32 --> 00:16:33: target.  
00:16:33 --> 00:16:38: Next slide, please. So I'm just gonna run through these  
00:16:38 --> 00:16:39: really quickly.  
00:16:39 --> 00:16:43: There just are 2030 newly adjusted targets.  
00:16:43 --> 00:16:47: Again, we want to communicate that the actions that we  
00:16:47 --> 00:16:49: have in place are the right ones.  
00:16:49 --> 00:16:52: We just need to scale them up.  
00:16:52 --> 00:16:56: So to address those emissions in buildings we are looking  
00:16:56 --> 00:16:56: at 100%  
00:16:56 --> 00:16:57: of new buildings built to be.  
00:16:57 --> 00:17:02: Net 0 by 2030 GHG from existing buildings or cut  
00:17:02 --> 00:17:05: in half from 2008 levels.  
00:17:05 --> 00:17:07: In terms of energy emissions.  
00:17:07 --> 00:17:12: 50% of communitywide energy comes from renewable or low  
carbon  
00:17:12 --> 00:17:13: sources.  
00:17:13 --> 00:17:17: 25% of commercial and industrial floor area is connected to  
00:17:17 --> 00:17:20: low carbon thermal energy sources.  
00:17:20 --> 00:17:24: For transportation, 75% of school or work trips under 5  
00:17:24 --> 00:17:25: kilometers are walked,

00:17:25 --> 00:17:28: biked or by transit, and 30%

00:17:28 --> 00:17:31: of registered vehicles are electric.

00:17:31 --> 00:17:35: My next slide please. In order to address the emissions

00:17:35 --> 00:17:39: from waste where identifying pathways to more sustainable consumption,

00:17:39 --> 00:17:43: city operations and in Toronto's economy and using our own

00:17:43 --> 00:17:46: integrated waste management system,

00:17:46 --> 00:17:51: we'd like to reduce residential waste diversion by 70%.

00:17:51 --> 00:17:56: Treacherous green infrastructure issues, and we're developing and implementing strategies

00:17:56 --> 00:18:00: to improve the green space infrastructure to build climate resilience

00:18:00 --> 00:18:01: and throughout the plan,

00:18:01 --> 00:18:06: we talk about ensuring equitable implementation and ongoing engagement and

00:18:06 --> 00:18:07: reporting.

00:18:07 --> 00:18:11: Next slide, please. Uh, no,

00:18:11 --> 00:18:14: Holland will probably go through this US in terms of

00:18:14 --> 00:18:16: buildings in a little bit more detail,

00:18:16 --> 00:18:18: but we overall we want to also work on ourselves

00:18:19 --> 00:18:21: because we can't ask the Community to do things that

00:18:21 --> 00:18:23: we can't do ourselves.

00:18:23 --> 00:18:25: So we have a target of 65%

00:18:25 --> 00:18:31: reduction over 2008. Missions in our base as our base

00:18:31 --> 00:18:32: year.

00:18:32 --> 00:18:35: So that would mean that all New City owned buildings

00:18:35 --> 00:18:39: will be designed and constructed to the TGS standard for

00:18:39 --> 00:18:40: starting in 2022.

00:18:40 --> 00:18:45: Existing city owned buildings will reach that zero emissions by

00:18:45 --> 00:18:45: 2040,

00:18:45 --> 00:18:48: reducing our building emissions by 60%

00:18:48 --> 00:18:52: by 2030. We have those targets for our fleet vehicles.

00:18:52 --> 00:18:53: Both the city owned fleet,

00:18:53 --> 00:18:57: which is 50% of that fleet being transitioned to zero

00:18:57 --> 00:18:58: missions.

00:18:58 --> 00:19:02: A vehicle mission. There are emissions vehicles.

00:19:02 --> 00:19:06: 50% of the TTC bus fleet also zero missions.

00:19:06 --> 00:19:10: All our city owned facilities will achieve 0 waste.

00:19:10 --> 00:19:14: Our renewable energy projects, primarily through the different facility,

00:19:14 --> 00:19:18: will generate and utilize 1.5 joules of energy from bio

00:19:18 --> 00:19:21: gas and our greenhouse gas emissions from food.

00:19:21 --> 00:19:24: This is a kind of a new one that we're  
00:19:24 --> 00:19:28: we're using some of looking at upstream emissions.  
00:19:28 --> 00:19:31: The greenhouse gas emissions from food that the City of  
00:19:31 --> 00:19:33: Toronto procures are reduced by 25%.  
00:19:34 --> 00:19:39: Next slide, please. We've outlined some dependencies,  
00:19:39 --> 00:19:42: so we know that action must begin now and must  
00:19:42 --> 00:19:43: focus on equity.  
00:19:43 --> 00:19:47: We know that the City corporation itself only produces 5%  
00:19:47 --> 00:19:50: of the emissions, 95% come from the Community,  
00:19:50 --> 00:19:52: so we know that we have an enabling role to  
00:19:53 --> 00:19:53: play,  
00:19:53 --> 00:19:56: so we must be able to include everyone,  
00:19:56 --> 00:19:58: and that is the focus on equity so that we  
00:19:59 --> 00:20:02: can optimize the work that we're doing at the city  
00:20:02 --> 00:20:02: level.  
00:20:02 --> 00:20:07: Uh, actions and alignment need is needed from all levels  
00:20:07 --> 00:20:08: of government.  
00:20:08 --> 00:20:13: Our plan is is depended on carbon free electricity or  
00:20:13 --> 00:20:16: near 0 carbon electricity systems.  
00:20:16 --> 00:20:19: We know that the labor market must shift and supply  
00:20:19 --> 00:20:22: chains must be developed in order to meet the ambition  
00:20:22 --> 00:20:24: that we've put out there.  
00:20:24 --> 00:20:28: That innovative and adaptive delivery mechanisms need to  
be scaled  
00:20:28 --> 00:20:32: up so things like move to during the summer where  
00:20:32 --> 00:20:35: we were able to increase The Walking and cycling and  
00:20:35 --> 00:20:38: physical activity of people in the city.  
00:20:38 --> 00:20:42: That quick and rapid scale up happened very quickly and  
00:20:42 --> 00:20:45: so one of the things we want to do is  
00:20:45 --> 00:20:48: to be able to apply that to climate change.  
00:20:48 --> 00:20:51: And we also want to be aware that even though  
00:20:52 --> 00:20:54: we're changing to more climate focused.  
00:20:54 --> 00:20:58: Correction, we will still have impacts on materials and land  
00:20:58 --> 00:21:01: resources and we need to account for those.  
00:21:03 --> 00:21:07: Right please. I think that's it.  
00:21:07 --> 00:21:10: I hope I was within my 6 minutes.  
00:21:10 --> 00:21:12: And happy to entertain questions later on.  
00:21:14 --> 00:21:16: Thank you very much, Cecilia.  
00:21:16 --> 00:21:18: And that was an excellent presentation.  
00:21:18 --> 00:21:21: Really appreciate adding in the dependencies and we'll  
unpack that  
00:21:21 --> 00:21:23: later on in the panel discussion.

00:21:23 --> 00:21:26: Can we pull up Lisa King slides and she'll give  
00:21:26 --> 00:21:31: us the lowdown on the accelerated timelines and everything  
associated  
00:21:31 --> 00:21:35: with she carbonizing new development over to you.  
00:21:35 --> 00:21:35: Lisa king.  
00:21:37 --> 00:21:38: Great thank you Kirk and thank you,  
00:21:38 --> 00:21:42: Cecilia. That was a great overview and introduction in the  
00:21:42 --> 00:21:44: interest of time,  
00:21:44 --> 00:21:45: I will try to be brief.  
00:21:45 --> 00:21:48: Next slide, please with the City Planning division of many  
00:21:48 --> 00:21:50: of you out there will know me and have worked  
00:21:50 --> 00:21:53: together with us on the Toronto Green Standard over the  
00:21:53 --> 00:21:57: years. I'm just going to highlight three big items that  
00:21:57 --> 00:22:00: relate to decarbonization and new construction,  
00:22:00 --> 00:22:04: so the TGS before which comes into effect May 1st,  
00:22:04 --> 00:22:06: 2022 for new planning applications.  
00:22:06 --> 00:22:10: Owning bylaw parking review which got approved by council  
in  
00:22:10 --> 00:22:14: December of 2021 and has a relationship to decarbonization  
and  
00:22:14 --> 00:22:15: the net Zero strategy report.  
00:22:15 --> 00:22:19: Timeline change on the TGS.  
00:22:19 --> 00:22:21: Next slide. Just I always have to throw something in  
00:22:21 --> 00:22:24: that just in case anybody doesn't know what the Toronto  
00:22:24 --> 00:22:25: Green Standard is.  
00:22:25 --> 00:22:29: It is a set of performance measures for new sustainable  
00:22:29 --> 00:22:29: development.  
00:22:29 --> 00:22:33: It is linked and embedded into the planning approval process.  
00:22:33 --> 00:22:36: So we have various tiers of performance.  
00:22:36 --> 00:22:39: Tier one is the mandatory level and then Tier 2  
00:22:39 --> 00:22:43: and higher are the voluntary levels that come along with  
00:22:43 --> 00:22:46: incentives and the TGS does implement what some of you  
00:22:47 --> 00:22:50: may know is a 0 emissions building framework which will  
00:22:50 --> 00:22:52: touch on briefly here too.  
00:22:52 --> 00:22:55: Next slide. Just you know we have had over 2000  
00:22:55 --> 00:22:58: development applications apply the TGS since 2010,  
00:22:58 --> 00:23:00: so we're on our 4th version now.  
00:23:00 --> 00:23:03: It's updated every four years.  
00:23:03 --> 00:23:07: 154 projects participating, participating in that DC refund so  
higher  
00:23:07 --> 00:23:09: performance buildings and sites.  
00:23:09 --> 00:23:12: 70 certified and profiled to date and I just wanted  
00:23:12 --> 00:23:15: to mention that 50 are confirmed at Tier 2 and

00:23:15 --> 00:23:16: above under TGS V3.  
00:23:16 --> 00:23:19: So that's very high performance and we see another 50  
00:23:19 --> 00:23:22: or so coming through exploring that possibility.  
00:23:22 --> 00:23:25: So just to point out that the industry is stepping  
00:23:25 --> 00:23:25: up.  
00:23:25 --> 00:23:28: It always amazes me when I see how that happens  
00:23:28 --> 00:23:32: and how everybody really comes into this and works together  
00:23:32 --> 00:23:34: hard at trying to achieve this together.  
00:23:34 --> 00:23:36: Of course it is a partnership program,  
00:23:36 --> 00:23:38: so there's a lot of internal divisions,  
00:23:38 --> 00:23:42: involvement and implementing service delivery on the TGS.  
00:23:42 --> 00:23:45: And then we work closely with the CA GB C  
00:23:45 --> 00:23:47: Class Post Canada Waterfront Toronto,  
00:23:47 --> 00:23:52: T, RCA and others. Next slide.  
00:23:52 --> 00:23:56: So the three performance standards that we have since  
2018,  
00:23:56 --> 00:23:58: we have divided them up into three packages.  
00:23:58 --> 00:24:02: They're quite extensive. There are five categories of  
performance,  
00:24:02 --> 00:24:05: but for mid to high-rise developments and all non residential  
00:24:05 --> 00:24:09: is the largest standard that applies to most private  
development  
00:24:09 --> 00:24:09: types.  
00:24:09 --> 00:24:15: Low rise, rise, residential development applies to townhouse  
developments,  
00:24:15 --> 00:24:18: typically. So the criteria for what uses or applies AT  
00:24:18 --> 00:24:21: justice based on our site plan control bylaw,  
00:24:21 --> 00:24:23: what comes. Through site plan control,  
00:24:23 --> 00:24:26: which they're planning approval mechanism we use here and  
method  
00:24:26 --> 00:24:29: of securing the TGS performance measures.  
00:24:29 --> 00:24:31: And then we have a separate standard for city owned  
00:24:31 --> 00:24:32: buildings.  
00:24:32 --> 00:24:34: So and that is really where you see the highest  
00:24:34 --> 00:24:37: performance and we're going to talk a lot more about  
00:24:37 --> 00:24:37: that today.  
00:24:37 --> 00:24:40: Next slide. So just to say,  
00:24:40 --> 00:24:44: you know the TGS before went through council and was  
00:24:44 --> 00:24:46: approved on July 14th of 2021,  
00:24:46 --> 00:24:48: and I did put the website in there.  
00:24:48 --> 00:24:50: I forgot to mention just because we do get asked  
00:24:50 --> 00:24:53: you know where are the performance measures.  
00:24:53 --> 00:24:56: So they were all you know attached to the Council

00:24:56 --> 00:24:58: report so you can see them all on our website.

00:24:58 --> 00:25:02: They're not absent or anything like that.

00:25:02 --> 00:25:05: Objectives of the V4 review was really focused in on

00:25:05 --> 00:25:09: GHG emissions reductions and what you'll see is everything  
in

00:25:09 --> 00:25:13: that version relates back to GHG reductions or climate  
resilience

00:25:13 --> 00:25:17: adaptation or response to extreme weather events.

00:25:17 --> 00:25:20: Making sure that we're more prepared in site and building

00:25:20 --> 00:25:23: development makes a link to cities prior priority strategy,

00:25:23 --> 00:25:26: so the net zero strategy being a big one,

00:25:26 --> 00:25:29: but also the biodiversity strategy or resilient strategy or  
electric

00:25:29 --> 00:25:30: vehicle strategy.

00:25:30 --> 00:25:32: We have a circular economy approach.

00:25:32 --> 00:25:35: Going on too, which is really exciting with the being

00:25:35 --> 00:25:37: led by solid waste,

00:25:37 --> 00:25:39: we always make sure we align with other standards out

00:25:39 --> 00:25:39: there.

00:25:39 --> 00:25:41: You'll see good alignment with Waterfront,

00:25:41 --> 00:25:45: Toronto's new Green building requirements lead be 4.1 and a  
link to of passive hosts.

00:25:45 --> 00:25:46: Of course around the highest energy and GHG requirements.

00:25:46 --> 00:25:51: Next slide. So I just wanted to highlight this aspect

00:25:51 --> 00:25:56: so the TGS does and has included a slow ramping

00:25:56 --> 00:26:00: up of electric vehicle requirements,

00:26:00 --> 00:26:03: infrastructure requirements within the standard.

00:26:03 --> 00:26:07: So what's happened recently though,

00:26:07 --> 00:26:09: is that we were doing a review of our zoning

00:26:09 --> 00:26:12: bylaw parking requirements and the city transportation  
planning decided to

00:26:13 --> 00:26:18: eliminate the parking minimums.

00:26:18 --> 00:26:20: So this is a really big move.

00:26:20 --> 00:26:22: A number of cities you know across Canada and in

00:26:22 --> 00:26:25: North America have been doing this for various reasons.

00:26:25 --> 00:26:28: It also has a nice relationship to carbon though,

00:26:28 --> 00:26:30: because there is a close link between embodied emissions  
upfront

00:26:30 --> 00:26:34: and embodied emissions from parking lots from concrete,  
right? So you get that added benefit,

00:26:34 --> 00:26:38: but it's part of this parking review.

00:26:38 --> 00:26:40: The big exciting news with that was that we were

00:26:40 --> 00:26:42: also able to incorporate 100%

00:26:42 --> 00:26:45:

00:26:45 --> 00:26:47:

00:26:47 --> 00:26:50: EV ready for all residential parking spaces.  
00:26:50 --> 00:26:53: These are indoor parking spaces associated with the building.  
00:26:53 --> 00:26:56: That's what the zoning bylaw covers and 25%  
00:26:56 --> 00:26:58: need be ready for. Non res.  
00:26:58 --> 00:27:01: Parking spaces, so that's that's a really big move.  
00:27:01 --> 00:27:03: It's in line with our EV strategy,  
00:27:03 --> 00:27:06: and our climate change targets.  
00:27:06 --> 00:27:10: And it also was kind of spurred by the EV  
00:27:10 --> 00:27:13: costing study that's recently being completed,  
00:27:13 --> 00:27:16: which contains a lot of really great information,  
00:27:16 --> 00:27:21: almost done by AES engineering and the Clean Air Partnership.  
00:27:21 --> 00:27:25: Next slide. Of course we have our zero versus building  
00:27:25 --> 00:27:30: framework implemented through the TGS and includes absolute performance targets  
00:27:30 --> 00:27:35: as opposed to percentage better improvement targets around energy and  
00:27:35 --> 00:27:39: GHG emissions. The really important link to decarbonizing Toronto,  
00:27:39 --> 00:27:43: of course, is that greenhouse gas intensity cap target limit  
00:27:43 --> 00:27:44: that we have by tier.  
00:27:44 --> 00:27:47: So this is the thing that is going to become  
00:27:47 --> 00:27:48: more and more important.  
00:27:48 --> 00:27:51: You see in TGS before that we we separate it  
00:27:51 --> 00:27:51: out.  
00:27:51 --> 00:27:54: We pull it out to give it greater emphasis.  
00:27:54 --> 00:27:58: Problem and around what is today's Tier 3 is where  
00:27:58 --> 00:28:02: you really see that GHG I that target starting to  
00:28:02 --> 00:28:07: force the exploration of what the fuel sources will be  
00:28:07 --> 00:28:10: and the idea of fuel switching.  
00:28:10 --> 00:28:15: Next slide, please. The other aspect that we're really exploring  
00:28:15 --> 00:28:19: right now is understanding upfront embodied emissions.  
00:28:19 --> 00:28:21: So we have two studies underway.  
00:28:21 --> 00:28:24: Right now. One is related to part 9 construction and  
00:28:24 --> 00:28:26: one is related to large buildings,  
00:28:26 --> 00:28:28: part three, and so you will start to see more  
00:28:28 --> 00:28:32: information and coming out and opportunities for engagement on this.  
00:28:32 --> 00:28:35: Once we get these study results coming out,  
00:28:35 --> 00:28:38: we're trying to understand right now what the upfront embodied  
00:28:38 --> 00:28:41: emissions are on typical building types in Toronto.

00:28:41 --> 00:28:44: This is a study being done with with mantle developments  
00:28:44 --> 00:28:46: in the University of Toronto.  
00:28:46 --> 00:28:49: So it's that up front portion that we're really concerned  
00:28:49 --> 00:28:49: about,  
00:28:49 --> 00:28:52: because we're concerned that if you go to the next  
00:28:52 --> 00:28:56: slide that it actually starts to overtake the emissions from  
00:28:56 --> 00:28:58: operations from building operations,  
00:28:58 --> 00:29:00: which we've all been so focused on,  
00:29:00 --> 00:29:03: and our targets are energy performance targets and codes  
and  
00:29:03 --> 00:29:05: standards are based around those emissions,  
00:29:05 --> 00:29:08: so we do have a requirement in TGS for before  
00:29:08 --> 00:29:11: for tracking upfront embodied emissions,  
00:29:11 --> 00:29:13: so we have introduced that,  
00:29:13 --> 00:29:15: and it was approved by Council.  
00:29:15 --> 00:29:18: Uh, but this study that we're doing right now,  
00:29:18 --> 00:29:21: the two of them will infer not weaken corporat some  
00:29:21 --> 00:29:23: benchmarks as well,  
00:29:23 --> 00:29:25: and making sure that we have a really consistent  
methodology  
00:29:25 --> 00:29:28: in terms of what we're asking for in that tracking.  
00:29:28 --> 00:29:31: And we do some real education and outreach on this  
00:29:31 --> 00:29:31: topic.  
00:29:31 --> 00:29:34: Next slide, please. And finally,  
00:29:34 --> 00:29:37: I just wanted to mention the circular economy or waste  
00:29:37 --> 00:29:37: section.  
00:29:37 --> 00:29:41: Just re. It supports those same kind of objectives around  
00:29:41 --> 00:29:45: sustainable materials we borrow from lead 4.1.  
00:29:45 --> 00:29:48: We've always overlap with lead on the waist section.  
00:29:48 --> 00:29:52: It's always very good to incorporate that into the TGS.  
00:29:52 --> 00:29:54: But you know this looking at biobased materials,  
00:29:54 --> 00:30:00: recycled content, locally produced construction materials  
makes a really big  
00:30:00 --> 00:30:03: difference to the carbon footprint of the buildings.  
00:30:03 --> 00:30:07: And the construction, waste management and diversion  
component,  
00:30:07 --> 00:30:10: of course, as well being really important.  
00:30:10 --> 00:30:13: Next slide. And here that's sort of top of mind  
00:30:13 --> 00:30:17: of because we did have a Council motion that came  
00:30:18 --> 00:30:22: out as part of that net zero strategy that Cecilia  
00:30:22 --> 00:30:24: was just giving a good overview on.  
00:30:24 --> 00:30:27: So basically what we, the Council direction,  
00:30:27 --> 00:30:30: was that we we move up or what will be



00:30:30 --> 00:30:35: our tier requirement that would have been in 2026 to  
00:30:35 --> 00:30:35: 2025,  
00:30:35 --> 00:30:40: so that in 2028 what is today's tier four of  
00:30:40 --> 00:30:41: the TGS?  
00:30:41 --> 00:30:43: Would be the tier one,  
00:30:43 --> 00:30:46: and instead of 2030 and that would save us an  
00:30:46 --> 00:30:47: additional.  
00:30:47 --> 00:30:50: 2 megatons of cumulative emissions up to 2050,  
00:30:50 --> 00:30:54: so we're already targeting around 30 megatons.  
00:30:54 --> 00:30:57: Reduction of CO2 emissions cumulative out to 2050 from this  
00:30:57 --> 00:30:59: zero emissions pathway we have.  
00:30:59 --> 00:31:02: We accelerate. We save even more,  
00:31:02 --> 00:31:04: so that's really important to us.  
00:31:04 --> 00:31:06: There will be more outreach and more.  
00:31:06 --> 00:31:08: You know, discussions that we're going to have to have  
00:31:08 --> 00:31:11: together with the building industry on how we do this  
00:31:11 --> 00:31:11: and how we get.  
00:31:11 --> 00:31:14: Here. And that's it for me today.  
00:31:14 --> 00:31:19: Or do you Helen? Thank  
00:31:19 --> 00:31:22: you very much. Lisa King and thank you for touching  
00:31:22 --> 00:31:23: on embodied energy.  
00:31:23 --> 00:31:25: There was a few questions on that I'd like to  
00:31:25 --> 00:31:27: ask people to keep those questions coming.  
00:31:27 --> 00:31:29: Building on Richard comment in the chat.  
00:31:29 --> 00:31:32: All these are great questions for this panel today and  
00:31:32 --> 00:31:36: also to inform future discussions and webinars on  
decarbonization.  
00:31:36 --> 00:31:40: Also, it's great stakeholder feedback and engagement for the  
city  
00:31:40 --> 00:31:42: as well to build new policies and programs.  
00:31:42 --> 00:31:46: Let's have, I believe it's actually Stuart that we've got  
00:31:46 --> 00:31:47: lined up right now.  
00:31:47 --> 00:31:49: Who will be giving us an impact?  
00:31:49 --> 00:31:54: On the existing building strategies which pass through  
Council in  
00:31:54 --> 00:31:57: the fall of last year and has a suite of  
00:31:57 --> 00:32:01: brand new policy tools and programs that will be giving  
00:32:01 --> 00:32:03: us information on and intelligent.  
00:32:03 --> 00:32:03: Thank you.  
00:32:05 --> 00:32:07: Thank you everyone. I hope everyone can hear mine.  
00:32:07 --> 00:32:11: Just lost my audio connection so hopefully this is coming  
00:32:11 --> 00:32:11: back again.  
00:32:11 --> 00:32:14: Thanks very much everyone for joining us.

00:32:14 --> 00:32:16: You know I'd be remiss by without,  
00:32:16 --> 00:32:18: you know, sort of acknowledging some familiar names they see  
00:32:18 --> 00:32:20: on the the call who were really kind of key  
00:32:20 --> 00:32:22: stakeholders in designing this strategy.  
00:32:22 --> 00:32:25: Alongside some key stuff Anna Maria Medina or spine and  
00:32:25 --> 00:32:26: Devin stops.  
00:32:26 --> 00:32:29: So I'm going to do a lightning round on this  
00:32:29 --> 00:32:30: so as everyone knows buildings,  
00:32:30 --> 00:32:34: huge source of emissions, about 5057%.  
00:32:34 --> 00:32:37: So we did a deep dive on on existing buildings  
00:32:37 --> 00:32:37: itself.  
00:32:37 --> 00:32:41: As Cecilia said, this is a key component of obviously  
00:32:41 --> 00:32:45: of the overall net zero strategy as it represents close  
00:32:45 --> 00:32:46: to 2/3 of our missions.  
00:32:46 --> 00:32:50: Developed with a great stake holders and I mentioned before  
00:32:50 --> 00:32:52: and in response to the climate declaration.  
00:32:52 --> 00:32:55: Magistrate version in 2019. So what we try to do  
00:32:55 --> 00:32:58: with the strategy was really seek a balance between speed  
00:32:58 --> 00:33:00: and feasibility and we considered a number of things.  
00:33:00 --> 00:33:02: Primary of you know, primary.  
00:33:02 --> 00:33:05: We're looking to see how do we reduce GHG emissions,  
00:33:05 --> 00:33:08: but you know, and of that was the recognition that  
00:33:08 --> 00:33:11: the economic implications of this are going to be massive  
00:33:11 --> 00:33:14: and so was so too was the realization that we  
00:33:14 --> 00:33:18: needed to identify the code benefits which are numerous  
00:33:18 --> 00:33:18: around  
00:33:18 --> 00:33:18: resilience,  
00:33:18 --> 00:33:22: equity, health and local economic development.  
00:33:22 --> 00:33:23: I also put a slide up from the picture because.  
00:33:23 --> 00:33:25: And a lot of people who know you know,  
00:33:25 --> 00:33:27: the AL Council reports they know they they just a  
00:33:27 --> 00:33:29: plain beats of paper.  
00:33:29 --> 00:33:30: So I really encourage anyone to take a look at  
00:33:30 --> 00:33:33: this and we're happy to you know we'll be engaging  
00:33:33 --> 00:33:34: on this more next slide,  
00:33:34 --> 00:33:38: please. So what is the strategy include?  
00:33:38 --> 00:33:39: So there's a big bundle of materials that go to  
00:33:39 --> 00:33:39: council.  
00:33:39 --> 00:33:43: Obviously there's this, rather, you know bland sort of black  
00:33:43 --> 00:33:44: and white report,  
00:33:44 --> 00:33:47: but this is really where a lot of the technical

00:33:47 --> 00:33:51: analysis and the modeling was done to achieving that zero  
00:33:51 --> 00:33:53: by 2050 includes a package of nine key actions to  
00:33:53 --> 00:33:57: achieve that model scenario and a high level implementation  
with  
00:33:57 --> 00:33:58: a plan and timelines.  
00:33:58 --> 00:34:02: So, given the you know that Council updated their ambition  
00:34:02 --> 00:34:03: in December of this year,  
00:34:03 --> 00:34:06: we're currently working through how do we sort of?  
00:34:06 --> 00:34:10: Meet meet this hyphen division and you know and make  
00:34:10 --> 00:34:10: it.  
00:34:10 --> 00:34:12: Also, I think the one the key things will be  
00:34:12 --> 00:34:15: doing is aiming to engage with key stakeholders in the  
00:34:15 --> 00:34:18: building industry to see how we can do this next  
00:34:18 --> 00:34:24: slide, please. So just really quickly some key findings.  
00:34:24 --> 00:34:26: I don't think these will come as a big surprise  
00:34:26 --> 00:34:27: to a lot of people.  
00:34:27 --> 00:34:30: What we found from our analysis of the two years  
00:34:30 --> 00:34:32: in developing this is really that to make this a  
00:34:32 --> 00:34:33: work to meet the target,  
00:34:33 --> 00:34:36: we need to implement this.  
00:34:36 --> 00:34:38: Public key thing again. Others have mentioned it is fuel  
00:34:39 --> 00:34:39: switching.  
00:34:39 --> 00:34:41: We need to get off the fossil fuels and a  
00:34:41 --> 00:34:43: clean electricity grid so we need access to those things.  
00:34:43 --> 00:34:46: So those are two of the most significant requirements.  
00:34:46 --> 00:34:50: We also know that envelope upgrades are costly but  
necessary  
00:34:50 --> 00:34:52: to to really make this work.  
00:34:52 --> 00:34:55: And also we see the greatest delivery of Co benefits  
00:34:55 --> 00:34:57: coming out of that envelope work.  
00:34:57 --> 00:34:58: So in terms of health,  
00:34:58 --> 00:35:00: resilience and local economic development,  
00:35:00 --> 00:35:02: I think one of the things I want to emphasize  
00:35:02 --> 00:35:04: with this plan is that although we recognize there's a  
00:35:04 --> 00:35:05: lot of costs with this,  
00:35:05 --> 00:35:07: this is an inherently. Local plant right.  
00:35:07 --> 00:35:09: The activity is going to be happening in Toronto and  
00:35:09 --> 00:35:12: if we can develop the supply chains and the workforce,  
00:35:12 --> 00:35:15: this is a massive economic opportunity.  
00:35:15 --> 00:35:18: Nancy remissions itself are not sort of technically and  
financially  
00:35:19 --> 00:35:21: feasible with from building retrofits alone,  
00:35:21 --> 00:35:22: so we do need to look at offsets and other

00:35:22 --> 00:35:23: measures,  
00:35:23 --> 00:35:25: and I think there's going to be a whole and  
00:35:25 --> 00:35:27: growing industry around that as well.  
00:35:27 --> 00:35:29: The other thing we we realize is that you know  
00:35:29 --> 00:35:32: voluntary measures are not enough and mandatory  
requirements will be  
00:35:32 --> 00:35:33: necessary,  
00:35:33 --> 00:35:35: and I think that's a recognition from,  
00:35:35 --> 00:35:38: you know, building sector itself.  
00:35:38 --> 00:35:41: Retrofits obviously significant net investment for building  
owners,  
00:35:41 --> 00:35:44: and so we want to also help the sector move,  
00:35:44 --> 00:35:47: and I'll. I'll speak to that a little later.  
00:35:47 --> 00:35:49: We also recognize that we cannot do it alone.  
00:35:49 --> 00:35:51: The city itself doesn't doesn't have all the money,  
00:35:51 --> 00:35:53: so we're going to need to,  
00:35:53 --> 00:35:54: you know, rely on all levels of government,  
00:35:54 --> 00:35:58: provincial and the federal government to really enable this  
market  
00:35:58 --> 00:35:58: transformation.  
00:35:58 --> 00:36:02: And what we're talking about really is our market  
transformation.  
00:36:02 --> 00:36:06: Next slide, please. But just really quickly happy again,  
00:36:06 --> 00:36:09: the report details these in much greater detail and the  
00:36:09 --> 00:36:12: nine actions I referenced are sort of broken up into  
00:36:12 --> 00:36:12: three buckets.  
00:36:12 --> 00:36:15: One setting requirements to assess building performance  
and create a  
00:36:16 --> 00:36:17: pathway for next year,  
00:36:17 --> 00:36:20: and the other is around providing that support and those  
00:36:20 --> 00:36:24: resources to make the retrofits easier and more affordable  
and  
00:36:24 --> 00:36:25: really get to scale,  
00:36:25 --> 00:36:26: and the other is around,  
00:36:26 --> 00:36:28: you know, advocacy and partnerships.  
00:36:28 --> 00:36:30: So hone in really quickly on the 1st,  
00:36:30 --> 00:36:34: the first bucket again, we will be looking to require.  
00:36:34 --> 00:36:37: Annual missions performance reporting and public disclosure  
for all buildings,  
00:36:37 --> 00:36:41: both residential, commercial, etc. In the market already,  
00:36:41 --> 00:36:43: many of you will be well aware of EW or  
00:36:43 --> 00:36:46: be the energy watering reporting benchmarking but will also  
be  
00:36:46 --> 00:36:49: looking at how do we roll this out for single

00:36:49 --> 00:36:51: family homes which there are more than 400,000,  
00:36:51 --> 00:36:55: we will be looking to establish performance targets again.  
00:36:55 --> 00:36:56: As Cecilia mentioned, this is a big.  
00:36:56 --> 00:36:58: This is a big push and it's actually key to  
00:36:58 --> 00:36:59: this strategy.  
00:36:59 --> 00:37:02: Is is doing that? The others around energy and emissions  
00:37:03 --> 00:37:06: audits and tune ups and developing programs to support.  
00:37:06 --> 00:37:08: We will be looking to provide integrated,  
00:37:08 --> 00:37:11: retrofit support and there are some programs available that  
we  
00:37:11 --> 00:37:12: are looking to scale.  
00:37:12 --> 00:37:16: We're also looking to expand and enhance Richard financing  
and  
00:37:16 --> 00:37:18: the city does have some programs in that area,  
00:37:18 --> 00:37:19: but we're also hoping to.  
00:37:19 --> 00:37:22: Hopefully this year make a few more announcements about  
some  
00:37:22 --> 00:37:23: other opportunities.  
00:37:23 --> 00:37:25: I'm working with colleagues in other divisions.  
00:37:25 --> 00:37:28: We want to support the permitting and approval process to  
00:37:28 --> 00:37:29: make this easier for depression.  
00:37:29 --> 00:37:31: Overall, again, thank you very much.  
00:37:31 --> 00:37:32: You allow for the invitation.  
00:37:32 --> 00:37:35: We wanna make home and building owners aware that this  
00:37:35 --> 00:37:35: is coming.  
00:37:35 --> 00:37:38: I think the most important thing we want to socialize  
00:37:38 --> 00:37:41: is that you know a massive societal shift is required  
00:37:41 --> 00:37:44: in terms of decarbonization and we've got 18 years to  
00:37:44 --> 00:37:46: do it. I know scientists say we have a lot  
00:37:46 --> 00:37:47: less,  
00:37:47 --> 00:37:48: you know, in all you know in many ways we  
00:37:48 --> 00:37:50: should start a lot sooner.  
00:37:50 --> 00:37:51: But this is where we are.  
00:37:51 --> 00:37:53: So there is a massive push on this.  
00:37:53 --> 00:37:56: We also recognize that a massive workforce training and  
development  
00:37:56 --> 00:37:59: is needed and so huge opportunity for people coming into  
00:37:59 --> 00:38:00: the sector.  
00:38:00 --> 00:38:01: And again, I think we're all,  
00:38:01 --> 00:38:04: individually and collectively going to be advocating for action  
at  
00:38:04 --> 00:38:05: other levels of government.  
00:38:05 --> 00:38:09: Next slide, please. It's a really quickly I'm I'm I'm

00:38:09 --> 00:38:11: not going to dive into the details here.

00:38:11 --> 00:38:13: These are the top three actions around performance,

00:38:13 --> 00:38:16: targets and disclosure. You know,

00:38:16 --> 00:38:17: I think in the short term,

00:38:17 --> 00:38:20: we're looking at a voluntary rollout of this beginning in

00:38:20 --> 00:38:21: 2022 to 2024,

00:38:21 --> 00:38:24: transitioning to mandatory 2025 and onwards.

00:38:24 --> 00:38:26: And what we're now looking into is,

00:38:26 --> 00:38:30: is how we how we effectively get this done.

00:38:30 --> 00:38:32: So again, please don't hesitate to reach out to us.

00:38:32 --> 00:38:35: We will be setting up secondary stakeholder groups to sort

00:38:35 --> 00:38:37: of advise on this process.

00:38:37 --> 00:38:39: The voluntary. Dave was designed with the thinking that we

00:38:39 --> 00:38:42: need to consult with industry and key stakeholders to figure

00:38:42 --> 00:38:45: out how this is going to work before we transition

00:38:45 --> 00:38:48: to mandatory. And so I think there's going to be

00:38:48 --> 00:38:52: lots of exciting conversations and opportunities to check their

00:38:52 --> 00:38:52: slide,

00:38:52 --> 00:38:55: please. So really quickly I think I'll do this in

00:38:55 --> 00:38:58: the next 30 seconds implementation the next steps so easy

00:38:58 --> 00:39:02: will leave the detailed design and implementation planning

00:39:02 --> 00:39:06: for the Council approved recommendations. Again, delighted to

00:39:06 --> 00:39:08: work with great colleagues like Cecilia and Lisa and Alan and others.

00:39:08 --> 00:39:09: 'cause it really is going to be a.

00:39:09 --> 00:39:12: You know, it's gonna be an all of government approach

00:39:12 --> 00:39:13: to us.

00:39:13 --> 00:39:15: As I mentioned before, key focus this year on the

00:39:16 --> 00:39:19: analysis for the introduction of those voluntary pieces and the

00:39:19 --> 00:39:20: transition.

00:39:20 --> 00:39:21: So I think there's going to be a lot of

00:39:21 --> 00:39:24: internal and external stakeholder engagement to make this

00:39:24 --> 00:39:26: work. Very big thing for us.

00:39:26 --> 00:39:29: Obviously is the analysis of the equity and housing

00:39:29 --> 00:39:31: affordability,

00:39:31 --> 00:39:32: impacts and the development of how this all works out

00:39:32 --> 00:39:33: with the strategy.

00:39:32 --> 00:39:33: So this is this is top of mind for us.

00:39:33 --> 00:39:35: It's being flagged internally and externally.

00:39:35 --> 00:39:38: So how do we work to mitigate the negative impacts

00:39:38 --> 00:39:42: and really enable those positive impacts for equity deserving communities?

00:39:42 --> 00:39:45: And then we're going to be looking at supporting builders

00:39:45 --> 00:39:48: building owners through existing programs and new programs,

00:39:48 --> 00:39:50: which again we hope to be able to hang out

00:39:50 --> 00:39:50: soon.

00:39:50 --> 00:39:53: I've better buildings, partnership, a number of initiatives there.

00:39:53 --> 00:39:54: Please contact us if you'd like to learn more.

00:39:54 --> 00:39:56: We'll be doing a series of.

00:39:56 --> 00:40:01: Throughout the year, our energy retrofit loan is one example.

00:40:01 --> 00:40:05: The Greenwood initiative is another 22 building owners in portfolios

00:40:05 --> 00:40:08: engaged now so far and hoping to grow that navigation

00:40:08 --> 00:40:12: support services which provides Technical Support to buildings looking to

00:40:12 --> 00:40:14: again get on this pathway to.

00:40:14 --> 00:40:16: Net zero and then on the residential side I'll better

00:40:16 --> 00:40:18: homes to go initiative and Home Energy Loan program,

00:40:18 --> 00:40:22: which we also hoping to make some exciting announcements about

00:40:22 --> 00:40:22: this year,

00:40:22 --> 00:40:23: so I will leave it at that.

00:40:23 --> 00:40:26: And again thank you very much everyone.

00:40:26 --> 00:40:27: Look forward to the discussion.

00:40:31 --> 00:40:35: Thank you. Thank you very much,

00:40:35 --> 00:40:37: Stuart. That was a very comprehensive,

00:40:37 --> 00:40:41: information rich presentation. I'd like to pass it over to

00:40:41 --> 00:40:42: Howland right now.

00:40:42 --> 00:40:45: Who will show us what the city is doing in

00:40:45 --> 00:40:48: leading by example on decarbonization for 2040.

00:40:48 --> 00:40:49: And like I said before,

00:40:49 --> 00:40:52: keep those questions going and we will be in using

00:40:52 --> 00:40:56: these questions to help inform our panel presentation.

00:40:56 --> 00:40:58: There's a lot of great things happening and tell us

00:40:58 --> 00:40:59: how long,

00:40:59 --> 00:41:02: how Toronto is going to be beating New York and

00:41:02 --> 00:41:03: DC and Vancouver?

00:41:03 --> 00:41:05: In the deep carbonization game over to you.

00:41:06 --> 00:41:09: If we can't beat them on the the ice hockey

00:41:09 --> 00:41:09: rink,

00:41:09 --> 00:41:14: then maybe we can beat them at decarbonization I am.

00:41:14 --> 00:41:17: Glad to be here. Thank you very much for inviting  
 00:41:17 --> 00:41:18: me to to speak,  
 00:41:18 --> 00:41:21: and thanks to the previous presenters,  
 00:41:21 --> 00:41:25: Stewart, Lisa and Cecilia. Tough act to follow and I  
 00:41:25 --> 00:41:28: guess the benefit of going last is I get to  
 00:41:28 --> 00:41:29: go fast,  
 00:41:29 --> 00:41:32: so let's quickly get through my slides.  
 00:41:32 --> 00:41:34: I'll focus on the the key points and leave some  
 00:41:34 --> 00:41:35: time for questions,  
 00:41:35 --> 00:41:39: so please next slide. The purpose here is to explain  
 00:41:39 --> 00:41:42: how we go from what was previously described.  
 00:41:42 --> 00:41:45: The Toronto Green Standard to 0 carbon requirements  
 coming down  
 00:41:45 --> 00:41:46: for the city.  
 00:41:46 --> 00:41:49: And what does that mean for a a building owner  
 00:41:49 --> 00:41:49: or portfolio?  
 00:41:49 --> 00:41:52: City owns building, so at a more result level we  
 00:41:52 --> 00:41:55: we've put some thinking and consulted across the city to  
 00:41:56 --> 00:41:59: figure out how we would go about achieving these targets  
 00:41:59 --> 00:42:01: for our own buildings. Next slide,  
 00:42:01 --> 00:42:06: please. And it really is boiling down in front of  
 00:42:06 --> 00:42:10: distill things into these seven key areas.  
 00:42:10 --> 00:42:13: And one of the areas takes about 50%  
 00:42:13 --> 00:42:16: of the effort and the benefit in the cost and  
 00:42:16 --> 00:42:19: the other six make up the remaining 50%  
 00:42:19 --> 00:42:23: to achieve net zero for city buildings by 2050,  
 00:42:23 --> 00:42:27: we identified low carbon new builds on site.  
 00:42:27 --> 00:42:33: Renewables, a strategic divestment of certain properties and  
 lands training  
 00:42:33 --> 00:42:34: and education offsets,  
 00:42:34 --> 00:42:38: and offsite renewables, as well as getting better use at  
 00:42:38 --> 00:42:39: our building data.  
 00:42:39 --> 00:42:41: As about 50% of the.  
 00:42:41 --> 00:42:44: The savings potential for for our portfolio.  
 00:42:44 --> 00:42:46: Putting effort into these areas,  
 00:42:46 --> 00:42:50: the other 50% is decarbonisation taking out natural gas  
 systems  
 00:42:50 --> 00:42:53: and putting in electricity systems.  
 00:42:53 --> 00:42:55: I'll talk a little bit about the costs that go  
 00:42:55 --> 00:42:59: along with that that the capital costs and the investment  
 00:42:59 --> 00:43:01: opportunities that go along there,  
 00:43:01 --> 00:43:03: as well as how that can be a good business  
 00:43:03 --> 00:43:04: case for building owners.



00:43:04 --> 00:43:09: Next slide, please. So we want to go through a  
00:43:09 --> 00:43:11: various stages.  
00:43:11 --> 00:43:14: We have a timeline to achieve this and initially things  
00:43:14 --> 00:43:16: are moving fast in this sector.  
00:43:16 --> 00:43:20: Initially the the timeline was 2054 transform Geo in 2017  
00:43:20 --> 00:43:23: and now we're looking at 2040 to achieve net zero  
00:43:23 --> 00:43:25: for our buildings portfolio.  
00:43:25 --> 00:43:30: So that increases our potential investment between now and  
that  
00:43:30 --> 00:43:34: time period from initial \$2.6 billion to make low carbon  
00:43:34 --> 00:43:38: investments to a \$4.1 billion investment to accelerate.  
00:43:38 --> 00:43:40: To that time period, but it still has to be  
00:43:41 --> 00:43:41: done,  
00:43:41 --> 00:43:42: we would just be doing things a bit faster than  
00:43:43 --> 00:43:44: we would have been doing them otherwise.  
00:43:47 --> 00:43:52: Next slide, please. So just like kind of identifies across  
00:43:52 --> 00:43:54: those different areas,  
00:43:54 --> 00:43:58: the main areas coming up here of fuel switching and  
00:43:58 --> 00:44:01: efficiency retrofits low carbon newbuilds training,  
00:44:01 --> 00:44:03: education and on site renewables and storage.  
00:44:03 --> 00:44:07: What the investment opportunity would be to achieve 80%  
00:44:07 --> 00:44:12: and the now as of December approved achieving net 0  
00:44:12 --> 00:44:14: by 2040 requirements,  
00:44:14 --> 00:44:17: so we'd be spending about \$165 million a year on  
00:44:17 --> 00:44:20: fuel switching and efficiency retrofits.  
00:44:20 --> 00:44:25: And that benefits you because you're going from what  
currently  
00:44:25 --> 00:44:27: is a low cost high carbon.  
00:44:27 --> 00:44:30: Heating commodity natural gas onto a low carbon,  
00:44:30 --> 00:44:37: relatively high cost electricity, fuel for for heating buildings  
and  
00:44:37 --> 00:44:39: for cooling as well.  
00:44:39 --> 00:44:40: If you can do that with efficient heat pumps,  
00:44:40 --> 00:44:43: either air source heat pump or ground source heat pumps,  
00:44:43 --> 00:44:46: and if you follow the trajectory of carbon prices and  
00:44:46 --> 00:44:50: the carbon tax and how that's going to affect natural  
00:44:50 --> 00:44:50: gas prices,  
00:44:50 --> 00:44:53: a heat pump is going to be more cost effective  
00:44:54 --> 00:44:56: year on year for your fuel bill.  
00:44:56 --> 00:44:58: Within that 2040 time horizon.  
00:44:58 --> 00:45:01: That natural gas so we would be doing this fuel  
00:45:01 --> 00:45:05: switching anyway to make sure that we achieve low carbon  
00:45:05 --> 00:45:08: and cost effective operations of city facilities.

00:45:08 --> 00:45:11: Using are all all of our tax dollars more wisely

00:45:11 --> 00:45:15: lower carbon newbuilds through the Toronto Green Standard being the

00:45:15 --> 00:45:18: the push and the the direction there for low carbon

00:45:18 --> 00:45:22: newbuilds training and education, that's really about operating buildings more

00:45:22 --> 00:45:22: effectively.

00:45:22 --> 00:45:26: Training our own staff, training our providers and the technicians

00:45:26 --> 00:45:28: that come into our buildings to do things.

00:45:28 --> 00:45:32: More effectively, it's use data properly to identify energy savings

00:45:32 --> 00:45:35: opportunities and have real time information about how buildings are

00:45:35 --> 00:45:36: operating.

00:45:36 --> 00:45:42: It's all important and keeping buildings more comfortable and accessible

00:45:42 --> 00:45:44: to the people that need them.

00:45:44 --> 00:45:47: On site renewables and storage needs to be maximized.

00:45:47 --> 00:45:50: Getting as much roof space covered with photovoltaic panels and

00:45:50 --> 00:45:53: also using that that energy that's stored up in the

00:45:53 --> 00:45:56: daytime at night time and at off peak hours using

00:45:56 --> 00:45:58: storage to tell take the pressure off the grid,

00:45:58 --> 00:46:03: but also to increase resilience of our facilities in future

00:46:03 --> 00:46:04: climate change.

00:46:04 --> 00:46:08: Future climate change scenario. And overall we'd be reducing our

00:46:08 --> 00:46:11: emissions tonnage to around 131,000 tons.

00:46:11 --> 00:46:14: We are the second biggest building in land portfolio in

00:46:15 --> 00:46:15: Canada,

00:46:15 --> 00:46:16: being the City of Toronto.

00:46:16 --> 00:46:19: We didn't know that until about 10 years ago because

00:46:19 --> 00:46:23: a bunch of different divisions post amalgamation pre amalgamation of

00:46:23 --> 00:46:23: the city,

00:46:23 --> 00:46:26: each one to. But you still don't have full control

00:46:26 --> 00:46:27: over all buildings.

00:46:27 --> 00:46:29: A lot of divisions within the city manage their own

00:46:29 --> 00:46:30: real estate,

00:46:30 --> 00:46:34: so understanding where to invest at the right time and

00:46:34 --> 00:46:36: at the right level.

00:46:36 --> 00:46:38: Is the key next steps in the key steps that

00:46:38 --> 00:46:41: we're going to be taking and what others should be

00:46:41 --> 00:46:42: looking at to take these steps.

00:46:42 --> 00:46:48: Next slide, please. There are funding opportunities to undertake this

00:46:48 --> 00:46:50: work that we'll be seeking out.

00:46:50 --> 00:46:53: We have a 20 recoverable debt program so if a

00:46:54 --> 00:46:57: piece of equipment is identified to be replaced.

00:46:57 --> 00:46:59: And if a low carbon alternative can be put in

00:46:59 --> 00:47:02: that would pay for itself within 20 years we can

00:47:02 --> 00:47:05: do that with the internal recovery that financing program.

00:47:05 --> 00:47:09: We're in discussions with the Canadian infrastructure bank to leverage

00:47:10 --> 00:47:13: their programs to do deep energy retrofits on a whole

00:47:13 --> 00:47:17: host of city buildings and that's work that's underway now

00:47:17 --> 00:47:21: in the investigation stages. Look at green bonds as a

00:47:21 --> 00:47:25: way to generate funds to invest into city buildings to

00:47:25 --> 00:47:26: keep them going.

00:47:26 --> 00:47:29: We have at least over 50 years,

00:47:29 --> 00:47:32: the average life of our current building stock,

00:47:32 --> 00:47:35: so there's a lot of upgrades and upkeep to do

00:47:35 --> 00:47:38: and need to modernize our facilities while we do that,

00:47:38 --> 00:47:42: we need to decarbonize. As part of that modernization and

00:47:42 --> 00:47:43: infrastructure.

00:47:43 --> 00:47:46: Canada also has funding available to us and to other

00:47:46 --> 00:47:47: sectors.

00:47:47 --> 00:47:53: Next slide, please. And, as Stuart alluded to,

00:47:53 --> 00:47:55: there are key benefits that go along with this.

00:47:55 --> 00:47:57: We're not just investing in the money is going nowhere,

00:47:57 --> 00:48:00: it's staying in Toronto and it's creating jobs and it's

00:48:00 --> 00:48:03: improving local air quality and we will be saving on

00:48:03 --> 00:48:06: our utility bills by moving off of what will be

00:48:06 --> 00:48:10: high cost, high carbon natural gas to fuel efficient heating

00:48:10 --> 00:48:11: systems.

00:48:11 --> 00:48:13: Using electricity as a fuel source.

00:48:15 --> 00:48:18: Next slide. I I set some time aside just to

00:48:19 --> 00:48:24: show some new construction and retrofit projects that we're

00:48:24 --> 00:48:25: currently

00:48:25 --> 00:48:28: undertaking.

00:48:25 --> 00:48:28: This is 330 progress. This is an ambulatory care and

00:48:28 --> 00:48:32: training facility going to be constructed off the 4:01 up

00:48:32 --> 00:48:33: in Scarborough.

00:48:33 --> 00:48:35: That's aiming to be 0 carbon.

00:48:35 --> 00:48:37: You can see the solar panel arrays.

00:48:37 --> 00:48:38: Not just on the building,

00:48:38 --> 00:48:39: but out in the landscape.

00:48:39 --> 00:48:43: Keeping those cars cool in the summertime while generating electricity.

00:48:43 --> 00:48:48: Next slide. The Mountain State care will be cutting that ribbon in the next year and a half.

00:48:48 --> 00:48:51: This is a project just up the road for me

00:48:51 --> 00:48:53: at daycare.

00:48:53 --> 00:48:54: Provider in the mountainous neighborhood,

00:48:54 --> 00:48:57: aiming to be net zero in the city's first net.

00:48:57 --> 00:48:59: Zero construction for a medium to large building.

00:48:59 --> 00:49:02: So good indicator for residential opportunities and scale of systems

00:49:02 --> 00:49:07: there using geothermal,

00:49:07 --> 00:49:09: solar and pacifist designs. Next slide.

00:49:09 --> 00:49:12: We're doing a deep energy retrofit at three facilities,

00:49:12 --> 00:49:14: but I'll mention this one at the atomic Olympian and

00:49:14 --> 00:49:17: hasn't been used much with a lot of different facilities

00:49:17 --> 00:49:20: lately due to Kovid,

00:49:20 --> 00:49:23: which gave us an opportunity to piggyback on a bulkhead

00:49:23 --> 00:49:25: replacement project.

00:49:25 --> 00:49:28: Do deep energy retrofits of the lighting,

00:49:28 --> 00:49:29: heating, and cooling systems of this building.

00:49:29 --> 00:49:31: Next slide. And there's a a set here,

00:49:31 --> 00:49:34: one of four or five different PF,

00:49:34 --> 00:49:39: and our facilities, parks, forestry and recreation facilities.

00:49:39 --> 00:49:42: One up in northeast, Scarborough and the other one down

00:49:42 --> 00:49:46: off of southern New Parkdale.

00:49:46 --> 00:49:49: New construction at adaptive reuse projects that will be

00:49:49 --> 00:49:51: aiming

00:49:51 --> 00:49:55: for TGS occlusion and.

00:49:55 --> 00:49:57: Net zero performance. Next slide.

00:49:57 --> 00:50:01: That's it, off to questions.

00:50:01 --> 00:50:03: Thank you very much. Again everyone and happy to talk

00:50:03 --> 00:50:05: more on this.

00:50:05 --> 00:50:06: Thank you everyone. We have a very very tight window

00:50:06 --> 00:50:09: here for our open panel questions.

00:50:09 --> 00:50:14: And why don't I start us off really quickly by

00:50:14 --> 00:50:17: asking the hot potato question which is on fuel switching

00:50:17 --> 00:50:21: and electrification?

00:50:21 --> 00:50:26: All start off with you,

00:50:26 --> 00:50:27: Cecilia, and ask you, we've seen some good moves from

00:50:27 --> 00:50:29: the feds regarding mandate letters and building code.

00:50:29 --> 00:50:32: What do you need from the feds and the province

00:50:32 --> 00:50:35: What do you need from the feds and the province

00:50:35 --> 00:50:39: What do you need from the feds and the province

00:50:39 --> 00:50:43: regarding synergy to help Toronto meet their decarbonization standards?

00:50:43 --> 00:50:46: If we could get some specifics on that real quick

00:50:46 --> 00:50:47: and then bounce over to either?

00:50:47 --> 00:50:51: Steward or Lisa for the new construction existing building application.

00:50:55 --> 00:50:55: You're on mute.

00:51:02 --> 00:51:05: Sorry about that. Yeah, I guess my answer to this

00:51:05 --> 00:51:09: question is that the net zero strategy does signal that

00:51:09 --> 00:51:15: buildings energy and transportation are prioritized for electrification in order

00:51:15 --> 00:51:18: to meet those targets, and that electricity needs to be

00:51:18 --> 00:51:19: carbon free.

00:51:19 --> 00:51:23: So in other words, no gas generated electricity anymore,

00:51:23 --> 00:51:28: and in formulating the strategy we have those very specific

00:51:28 --> 00:51:28: users.

00:51:28 --> 00:51:31: You mentioned Kirk so? First,

00:51:31 --> 00:51:34: from the federal government in terms of the rising price

00:51:34 --> 00:51:34: of carbon.

00:51:34 --> 00:51:37: So in our own technical modeling.

00:51:37 --> 00:51:39: But we used to underpin our recommendations.

00:51:39 --> 00:51:43: We know that the price of carbon is going to

00:51:43 --> 00:51:45: climb to \$170 per ton by 2030,

00:51:45 --> 00:51:49: and so this will raise the cost of gasoline and

00:51:49 --> 00:51:52: natural gas relative to electricity.

00:51:52 --> 00:51:54: So that's one of the signals in,

00:51:54 --> 00:51:58: in addition to the new building in retrofit codes you

00:51:58 --> 00:52:00: referenced by the feds.

00:52:00 --> 00:52:01: Similarly, on the east side,

00:52:01 --> 00:52:05: the federal government has mandated that all new car and

00:52:05 --> 00:52:07: passenger truck sales will be 100%.

00:52:07 --> 00:52:11: Has zero emissions by 2035.

00:52:11 --> 00:52:14: Along with these signals, or in addition to those signals

00:52:14 --> 00:52:17: that are integrated into the report,

00:52:17 --> 00:52:22: our recommendations also talk about the specific advocacy

00:52:22 --> 00:52:25: pieces that

00:52:22 --> 00:52:25: we need to ask that need to be supported.

00:52:25 --> 00:52:29: And so one of them does deal with the understanding

00:52:29 --> 00:52:33: with the ISO and how demand response and conservation

00:52:33 --> 00:52:37: can

00:52:33 --> 00:52:37: be viewed a bit differently in terms of its prioritization

00:52:37 --> 00:52:40: of generation selection. So that's one piece that we're going

00:52:40 --> 00:52:42: to be looking at this year,

00:52:42 --> 00:52:46: and the other is that obvious promotion through our report.  
00:52:46 --> 00:52:51: Recommendations around heat pump technology at the building level and  
00:52:51 --> 00:52:54: other useful energy reduction technologies,  
00:52:54 --> 00:52:58: certainly. You know the message is that nothing is really  
00:52:58 --> 00:53:01: simple when it comes to these issues,  
00:53:01 --> 00:53:05: but we will be dealing with them because our report  
00:53:05 --> 00:53:09: signals that we will be basically engaging on these specific  
00:53:10 --> 00:53:13: issues and that they are critical to reach our goals.  
00:53:13 --> 00:53:14: Thank  
00:53:14 --> 00:53:18: you very much. I'm gonna ask Stuart if you could  
00:53:18 --> 00:53:21: comment on electrification.  
00:53:21 --> 00:53:25: What is the scale of work needed on electrification in  
00:53:25 --> 00:53:27: existing buildings?  
00:53:27 --> 00:53:29: And you know what, what?  
00:53:29 --> 00:53:31: What incentives are in place.  
00:53:31 --> 00:53:34: One of the questions was how are asset managers gonna  
00:53:34 --> 00:53:35: pay for this?  
00:53:35 --> 00:53:38: And and what incentives are either in store or from  
00:53:38 --> 00:53:39: the city on that?  
00:53:41 --> 00:53:43: I, I think the simple way of saying it,  
00:53:43 --> 00:53:45: it it. It is massive,  
00:53:45 --> 00:53:47: right? And you know this could speak in much more  
00:53:47 --> 00:53:50: detail to the specifics around electrification,  
00:53:50 --> 00:53:52: but I think it it's it's.  
00:53:52 --> 00:53:54: It's significant, I think one of the things we're trying  
00:53:54 --> 00:53:56: to signal with these reports and the timing of this,  
00:53:56 --> 00:53:59: too, is that it's so critical to start thinking about  
00:53:59 --> 00:54:03: this now and planning for those assets and that  
transformation.  
00:54:03 --> 00:54:06: Overtime, I think that's you know one of the key  
00:54:06 --> 00:54:09: things this city again is is looking to provide  
00:54:09 --> 00:54:13: some support for our energy retrofit loan programs and  
some.  
00:54:13 --> 00:54:15: Company initiatives. We also realized you know,  
00:54:15 --> 00:54:17: and I think you know Helen would probably agree with  
00:54:17 --> 00:54:17: is.  
00:54:17 --> 00:54:20: This is something weird learning to do as well,  
00:54:20 --> 00:54:23: and so I think we need to learn together,  
00:54:23 --> 00:54:25: you know. And at the same time we do need  
00:54:25 --> 00:54:28: to send those signals to manufacturers that we're going to  
00:54:28 --> 00:54:30: need this technology.  
00:54:30 --> 00:54:31: And there's there's opportunities here for it.

00:54:31 --> 00:54:34: I think the other thing the city is doing is  
00:54:34 --> 00:54:37: it is engaging actively with Toronto Hydro and and putting  
00:54:37 --> 00:54:37: out there.  
00:54:37 --> 00:54:40: What we what we need and what the Community as  
00:54:40 --> 00:54:42: a whole is going to need to deal with not  
00:54:42 --> 00:54:44: just the regular growth of the city,  
00:54:44 --> 00:54:45: which is. Coming hot and fast,  
00:54:45 --> 00:54:48: but this this massive need for electrification.  
00:54:50 --> 00:54:53: Thank you Stuart. I mean for the question on the  
00:54:53 --> 00:54:57: NYC ban and some of the policy questions Cecilia has  
00:54:57 --> 00:55:00: done a great job of answering those online.  
00:55:00 --> 00:55:02: So look at the answer questions there.  
00:55:02 --> 00:55:04: I'm gonna ask Lisa right now.  
00:55:04 --> 00:55:07: The big feedback. The pushback has been.  
00:55:07 --> 00:55:12: This is too much too soon that this accelerated timeline  
00:55:12 --> 00:55:13: on TGS.  
00:55:13 --> 00:55:16: And to an extent as well on existing buildings for  
00:55:16 --> 00:55:20: Stewart is that it's gonna tax our supply chain.  
00:55:20 --> 00:55:23: It's going to outstrip the resource that we have on  
00:55:23 --> 00:55:24: workforce development.  
00:55:24 --> 00:55:25: What are your thoughts on that?  
00:55:25 --> 00:55:28: And then what supports are there in place for new  
00:55:28 --> 00:55:30: build and also for existing?  
00:55:34 --> 00:55:37: Yeah, I mean I, I think that those are valid  
00:55:37 --> 00:55:38: comments,  
00:55:38 --> 00:55:40: but that just means that we all have to ramp  
00:55:40 --> 00:55:42: up how we work together and how we you know  
00:55:43 --> 00:55:45: meet this acceleration idea that we're talking about.  
00:55:45 --> 00:55:48: So we have to accelerate knowledge transfer.  
00:55:48 --> 00:55:49: We have to accelerate, you know,  
00:55:49 --> 00:55:51: meeting those gaps in the supply chain.  
00:55:51 --> 00:55:54: We have to look target specific manufacturers we have to  
00:55:54 --> 00:55:56: deal with the workforce development.  
00:55:56 --> 00:55:58: So we're going to have to at the city.  
00:55:58 --> 00:56:00: But collectively with our partners,  
00:56:00 --> 00:56:04: target those specific problems and challenges in order to  
00:56:04 --> 00:56:05: meet  
00:56:04 --> 00:56:05: the targets that we have.  
00:56:05 --> 00:56:08: And we know that. And none of us have a  
00:56:08 --> 00:56:11: crystal ball as far as how quickly this can all  
00:56:11 --> 00:56:12: play out,  
00:56:12 --> 00:56:14: but the other thing to keep in mind,

00:56:14 --> 00:56:16: I guess I'd add in terms of new construction.  
00:56:16 --> 00:56:18: It's just remember that we do have a harmonization of  
00:56:18 --> 00:56:19: codes,  
00:56:19 --> 00:56:22: exercise coming up with the Ontario Building code in the  
00:56:22 --> 00:56:23: National Energy Code,  
00:56:23 --> 00:56:27: and the National Energy Code is taking a similar trajectory  
00:56:27 --> 00:56:29: to the TGS 0 emissions Building framework.  
00:56:29 --> 00:56:31: So we've got to see how that all plays out,  
00:56:31 --> 00:56:34: but typically our green standards try to stay a bit  
00:56:34 --> 00:56:37: ahead of the code energy requirements,  
00:56:37 --> 00:56:39: right? So I think what we find again don't wanna  
00:56:39 --> 00:56:42: you know I don't have a crystal ball but when  
00:56:42 --> 00:56:44: we do that kind of review,  
00:56:44 --> 00:56:48: those accelerated timelines that we're seeing that came from  
council  
00:56:48 --> 00:56:51: on the TGS new construction may match up to where  
00:56:51 --> 00:56:53: we need to be to be slightly ahead of the  
00:56:53 --> 00:56:54: code changes.  
00:56:56 --> 00:56:59: OK, excellent I'm gonna. I'm looking at the clock.  
00:56:59 --> 00:57:01: We've got 3 minutes left.  
00:57:01 --> 00:57:04: I'm gonna ask Stuart and then how long is well  
00:57:04 --> 00:57:08: to follow up with that on the business case we  
00:57:08 --> 00:57:10: are living in Ruka times,  
00:57:10 --> 00:57:14: volatile, uncertain, complex and ambiguous times.  
00:57:14 --> 00:57:17: And now we have a whole different business case.  
00:57:17 --> 00:57:21: We have these dream projects of decarbonization,  
00:57:21 --> 00:57:26: resiliency, electrification, adaptation, and market  
transformation that make up these  
00:57:26 --> 00:57:28: dream projects that we now have to do a business.  
00:57:28 --> 00:57:31: Based on you know what are,  
00:57:31 --> 00:57:33: what is, what can asset managers do and include in  
00:57:33 --> 00:57:36: their analysis and actually let me start off with howling  
00:57:37 --> 00:57:39: 'cause you haven't had a chance to speak on the  
00:57:39 --> 00:57:42: panel. What's the city doing as part of their business  
00:57:42 --> 00:57:42: case?  
00:57:42 --> 00:57:45: They could give you some specifics on if you guys  
00:57:45 --> 00:57:48: use shadow carbon pricing and stuff like that to kind  
00:57:48 --> 00:57:52: of justify and analyze your projects and then also over  
00:57:52 --> 00:57:54: to Stewart what your thoughts are on city supports for  
00:57:54 --> 00:57:55: existing building.  
00:57:56 --> 00:57:59: Sure, I did mention our twenty year recoverable debt  
program,  
00:57:59 --> 00:58:02: so that's a policy where if we have something we



00:58:02 --> 00:58:05: need to replace and it pays for itself in 20  
00:58:05 --> 00:58:05: years,  
00:58:05 --> 00:58:08: it's going to cost less than we can do it.  
00:58:08 --> 00:58:10: There's a thumb on the system we can put saying  
00:58:11 --> 00:58:13: if there's a deep carbon savings there.  
00:58:13 --> 00:58:14: If you're going to invest in this,  
00:58:14 --> 00:58:16: we'll use that fund. But if it's deep carbon,  
00:58:16 --> 00:58:19: we're going to do it even if it doesn't pay  
00:58:19 --> 00:58:20: for itself within 20 years,  
00:58:20 --> 00:58:22: we can still move ahead.  
00:58:22 --> 00:58:26: We're also looking to insert options assessments in our.  
00:58:26 --> 00:58:29: Projects so at a project level,  
00:58:29 --> 00:58:30: we're going to go in and say,  
00:58:30 --> 00:58:32: OK, we're going to replace a boiler.  
00:58:32 --> 00:58:35: What else could we do and do some front end  
00:58:35 --> 00:58:36: work to build a?  
00:58:36 --> 00:58:39: A good business case that can use that financing rather  
00:58:39 --> 00:58:40: finance and say OK,  
00:58:40 --> 00:58:42: maybe it's not a boiler replacement,  
00:58:42 --> 00:58:44: but the chiller is gonna die in five years.  
00:58:44 --> 00:58:45: Let's put in a geothermal system,  
00:58:45 --> 00:58:48: doesn't really match up the price of just a boiler  
00:58:48 --> 00:58:49: that you're going to rent,  
00:58:49 --> 00:58:51: but we're going to displace that.  
00:58:51 --> 00:58:53: Accelerate the renewal of that chiller as well.  
00:58:53 --> 00:58:57: Replace both systems. Free up some space and mechanical  
rooms  
00:58:57 --> 00:58:59: for other purposes and go for it.  
00:58:59 --> 00:59:01: That way. The third thing I'll say there,  
00:59:01 --> 00:59:04: what we're looking to do is integrate into our building  
00:59:04 --> 00:59:07: assessments as we go on and look at our buildings  
00:59:07 --> 00:59:09: and see how old stuff is and what the.  
00:59:09 --> 00:59:13: Paint falling off and where we need to do work.  
00:59:13 --> 00:59:14: Work in with that process.  
00:59:14 --> 00:59:17: Walking in at the same time with that assessor is  
00:59:17 --> 00:59:18: as zero carbon assessment,  
00:59:18 --> 00:59:22: so do energy audit and zero carbon feasibility studies with  
00:59:22 --> 00:59:25: our building condition assessments and resiliency  
assessments.  
00:59:25 --> 00:59:27: Look at the curbing outside the building.  
00:59:27 --> 00:59:30: Is there a potential for floods to come in there  
00:59:30 --> 00:59:32: if there's a high rainfall event?

00:59:32 --> 00:59:33: What's the roof structure like?  
00:59:33 --> 00:59:36: Can it hold significant snow loads if we decrease the  
00:59:36 --> 00:59:39: size of the the boiler and increase the size of  
00:59:39 --> 00:59:39: the chiller,  
00:59:39 --> 00:59:42: is that? Going to get us through the next 50  
00:59:42 --> 00:59:44: years 'cause those are the the changes we'll see in  
00:59:45 --> 00:59:46: our weather patterns.  
00:59:46 --> 00:59:49: So doing all that walkthrough once instead of four or  
00:59:49 --> 00:59:51: five times and cost savings outweigh.  
00:59:54 --> 00:59:57: OK, thank you, do we?  
00:59:57 --> 00:59:59: You alive. Do we have time or are we wrapping  
00:59:59 --> 01:00:00: this up at this point?  
01:00:03 --> 01:00:04: I think we're we're wrapping up.  
01:00:04 --> 01:00:06: Unfortunately, I'm sorry, Kirk.  
01:00:08 --> 01:00:11: Sorry, will have to continue this online people.  
01:00:11 --> 01:00:13: Thank you very much and this has been a fabulous  
01:00:13 --> 01:00:14: panel.  
01:00:14 --> 01:00:16: I wish we had more time to have an open  
01:00:16 --> 01:00:17: discussion,  
01:00:17 --> 01:00:21: but let's continue this in future session and online over  
01:00:21 --> 01:00:24: to you and thank you very much for the panel.  
01:00:24 --> 01:00:28: Big Congrats online to everyone for the information and  
actionable  
01:00:28 --> 01:00:30: intelligence for moving forward on decarbonization.  
01:00:31 --> 01:00:34: Thanks Kirk and thanks everyone for your questions on  
behalf  
01:00:34 --> 01:00:34: of you.  
01:00:34 --> 01:00:37: Like Toronto, I wanna thank all of our panelists for  
01:00:37 --> 01:00:40: joining us today in session was recorded and we will  
01:00:40 --> 01:00:42: circulate the recording as soon as as soon as it  
01:00:42 --> 01:00:45: becomes available, so be sure to check out our upcoming  
01:00:45 --> 01:00:45: programs.  
01:00:45 --> 01:00:47: We have some very exciting events lined up.  
01:00:47 --> 01:00:50: You can register the register for them via the link  
01:00:50 --> 01:00:53: in the chat and we look forward to seeing you  
01:00:53 --> 01:00:54: on a future webinar.  
01:00:54 --> 01:00:55: Thanks everyone.  
01:00:57 --> 01:00:58: Thanks everyone.  
01:01:00 --> 01:01:02: Thank you and have a great day.  
01:01:02 --> 01:01:05: We'll see you on the social.  
01:01:05 --> 01:01:09: And take a look at the nine answered questions by  
01:01:09 --> 01:01:11: Cecilia and other great answers,  
01:01:11 --> 01:01:11: although.

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