

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

00:04:06 --> 00:04:08: the thumbs up button.

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 helping us get to the net zero target by 2040.

00:06:49 --> 00:06:53: If we could bring on Cecilia slides as I explained the format for today today we will be doing an initial comments format where all four presenters will be giving a 6 minute presentation covering the highlights followed by a three to six question.

00:06:53 --> 00:06:57: Open panel discussion where we unpack the new build existing buildings policy and leadership by example issues surrounding the Carbonizing Toronto by 2040.

00:06:57 --> 00:07:01: I want to give time for the Q&A, so please add your questions early and off into the QA chat and we'll try and integrate those into the panel discussion.

00:07:01 --> 00:07:06: Cecilia, Are you ready and able to give us the policy update on the City of Toronto?

00:07:06 --> 00:07:10: Yes I am. Overkill.

00:07:10 --> 00:07:11: Thank you Kirk, and and thanks everyone for inviting us to speak to this great group today.

00:07:11 --> 00:07:16: We're very pleased to be able to share with you, you know, awesome highlights of our new net zero strategy and also dig into some of those details through some of the other presenters.

00:07:16 --> 00:07:21: So I'm going to. I'm going to give you some of the highlights so you can go to the next slide.

00:07:21 --> 00:07:22: So the title of our strategy is called transform to critical steps for.

00:07:22 --> 00:07:25: Net 0 by 2040 and we presented this strategy on December 15th when it was actually adopted by City Council.

00:07:25 --> 00:07:29: And what it does is actually set out a new community wide target of net zero emissions greenhouse gas emissions by the year 2040,

00:07:29 --> 00:07:33: and that this actually makes us one of only three big cities in North America with that ambitious target.

00:07:33 --> 00:07:34: Our existing 2030 target is already quite ambitious, so it is a 65%

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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

00:26:13 --> 00:26:18: planning decided to

00:26:18 --> 00:26:20: eliminate the parking minimums.

00:26:20 --> 00:26:22: So this is a really big move.

00:26:22 --> 00:26:25: A number of cities you know across Canada and in

00:26:25 --> 00:26:28: North America have been doing this for various reasons.

00:26:28 --> 00:26:30: It also has a nice relationship to carbon though,

00:26:30 --> 00:26:34: because there is a close link between embodied emissions
upfront

00:26:34 --> 00:26:38: and embodied emissions from parking lots from concrete,

00:26:38 --> 00:26:40: right? So you get that added benefit,

00:26:40 --> 00:26:42: but it's part of this parking review.

00:26:42 --> 00:26:45: The big exciting news with that was that we were

00:26:45 --> 00:26:47: also able to incorporate 100%

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
00:28:29 --> 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
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, impacts and the development of how this all works out

00:39:31 --> 00:39:32: 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,

00:49:14 --> 00:49:17: but I'll mention this one at the atomic Olympian and

00:49:17 --> 00:49:20: hasn't been used much with a lot of different facilities

00:49:20 --> 00:49:23: lately due to Kovid,

00:49:23 --> 00:49:25: which gave us an opportunity to piggyback on a bulkhead

00:49:25 --> 00:49:28: replacement project.

00:49:28 --> 00:49:29: Do deep energy retrofits of the lighting,

00:49:29 --> 00:49:31: heating, and cooling systems of this building.

00:49:31 --> 00:49:34: Next slide. And there's a a set here,

00:49:34 --> 00:49:39: one of four or five different PF,

00:49:39 --> 00:49:42: and our facilities, parks, forestry and recreation facilities.

00:49:42 --> 00:49:46: One up in northeast, Scarborough and the other one down

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

00:49:49 --> 00:49:51: New construction at adaptive reuse projects that will be

00:49:51 --> 00:49:55: aiming

00:49:55 --> 00:49:57: for TGS occlusion and.

00:49:57 --> 00:50:01: Net zero performance. Next slide.

00:50:01 --> 00:50:03: That's it, off to questions.

00:50:03 --> 00:50:05: Thank you very much. Again everyone and happy to talk

00:50:05 --> 00:50:06: more on this.

00:50:09 --> 00:50:14: Thank you everyone. We have a very very tight window

00:50:14 --> 00:50:17: here for our open panel questions.

00:50:17 --> 00:50:21: And why don't I start us off really quickly by

00:50:21 --> 00:50:26: asking the hot potato question which is on fuel switching

00:50:26 --> 00:50:27: and electrification?

00:50:27 --> 00:50:29: All start off with you,

00:50:29 --> 00:50:32: Cecilia, and ask you, we've seen some good moves from

00:50:32 --> 00:50:35: the feds regarding mandate letters and building code.

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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