

Welcome to Today's Virtual Q&A!

Meeting will Commence at 12:00 pm

June 15, 2021

HALIFAX

Slide 1



REGIONAL PLAN REVIEW

Themes and Directions

Climate Q & A
June 15, 2021

HALIFAX

Slide 2



WHY ARE WE HERE TODAY?

We are reviewing the Regional Plan.

We are here to provide an **overview of the proposed Themes and Directions**. This is the first major deliverable of the Regional Plan Review. We are kicking off a month-long engagement period on this work, including webinars on 6 key themes. Today's Webinar is for Climate:

- Social Planning
- Housing
- **Climate**
- Environment
- Mobility
- Long Range planning

We are here today because we are reviewing the Regional Plan, which means we are evaluating our land use policies and making sure they represent the direction that Council would like to set. We are contemplating how the municipality is physically organized and growing.

We kicked off this phase of public engagement on May 20th at Community Planning and Economic Development Standing Committee – which is the primary advisory body for this work.

Today's session is focused on our climate policy.

The Halifax Regional Municipal Planning Strategy (Regional Plan) is a strategic document built on a common vision and principles for the municipality to achieve balanced and sustainable growth.

Originally adopted in 2006, the Regional Plan provided the first comprehensive guide for future growth for the entire municipality following amalgamation. It outlines where, when, and how future growth and development should take place between now and 2031.

4

The Regional Plan is a strategic document – the first plan adopted after amalgamation that provided a region-wide vision for land use.

First adopted in 2006, it provided a comprehensive outline of how growth and development should take place until 2031.

WHAT DOES THE REGIONAL PLAN DO?

- » Provides policy direction for planning at the regional and community level
- » Sets up region-wide land use by-law regulations
- » Establishes the Municipality's intent to conduct future research programs or studies
- » Identifies programming or partnership opportunities



The Regional Plan is powerful in guiding the Municipality's planning and decision-making. As a high-level policy document, it does a few different things - First, the Plan provides policy direction for planning at the regional and community level – the regional plan sits above the community or secondary plan level documents, and above our land use by-laws, and sets region-wide policy intent. Where something is important enough that it should apply everywhere, the Regional Plan policy can set up land use by-law regulations that will be applied region-wide. So for example, for coastal elevation setbacks, those policies sit in the Regional Plan, and the regulations are rolled out in every community's land use by-law. It can establish the Municipality's intent to do future research programs or studies. For example, the Regional Plan set an intent to adopt an open space plan, which became the Halifax Green Network Plan. With its adoption, there is ongoing work related to that plan that will get its own direction in the regional plan. I will also talk today about how the Municipality has adopted HalifACT, our Climate Change Action plan, and how the Regional Plan will support the ongoing work of that plan. And finally, the Regional Plan identifies where there are needs for different types of programming or opportunities to partner with community or other levels of government. Taking action on climate requires cooperation across our community, and the Regional Plan can support partnerships with other groups to achieve our goals.

REGIONAL PLAN TIMELINE



This presents the progression of the Regional Plan over the past 15 years. In 2006, we approved the original Regional Plan, and in 2014 we conducted our first review – you might recognize the name RP+5, which was the brand for that review. We are aiming to complete this review in 2022.



WHAT ARE THE THEMES & DIRECTIONS?

Key Ideas, Issues and Potential Changes.

The Themes & Directions document **shares ideas about key planning issues and provides details of the work** that will be completed during the Review. The purpose of this document is to demonstrate the scope of the Regional Plan Review to the public, stakeholders, Council, and ultimately to seek feedback on the content.

The feedback will help provide focus and direction for our work during the Review.

7

The Themes and Directions document outlines the key ideas and planning issues we will address in the Review. It's chance to step back and ask everyone – do we have this right? Are we headed in the right direction? The feedback we receive will help provide focus and direction for our work during the Review.



The Themes and Directions document includes 11 Themes. They are all highlighted on the slide, and an overview of each theme is available to you on our website – shapeyourcityhalifax.ca/regional-plan.

Today we are focusing on issues that are part of 2 themes –

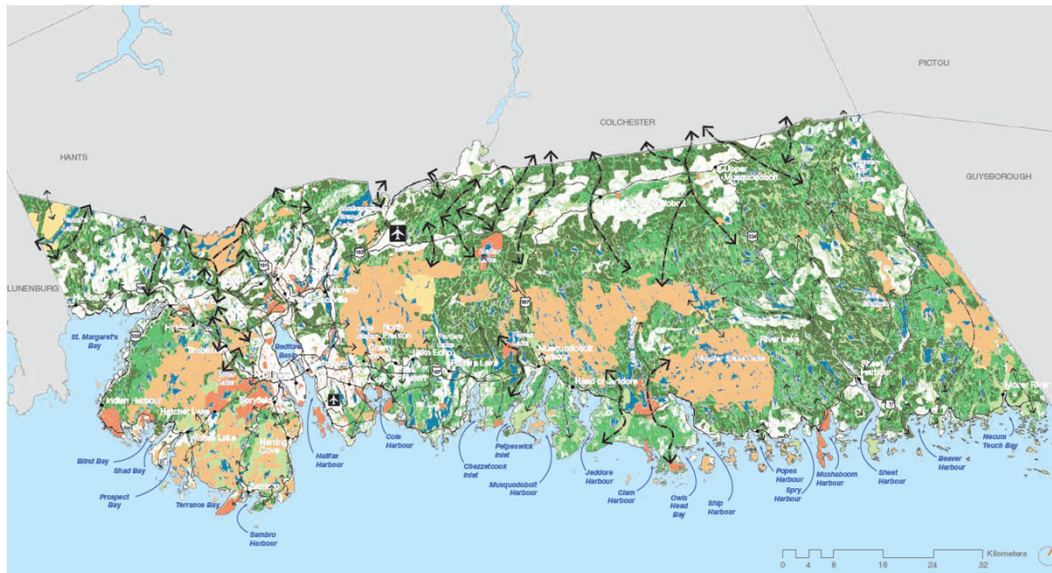
Theme 8, Enhancing Environmental Protection, and Theme 9, Leading Through Action on Climate.

Climate

9

Climate change is a real, urgent, complex, global crisis. With the changing climate, we face hazards to our health and safety, the natural world, and our economic growth. In HRM, Regional Council declared a climate emergency on January 29th, 2019. Climate impacts need to be considered as a critical part of all our planning work.

Halifax Green Network Plan

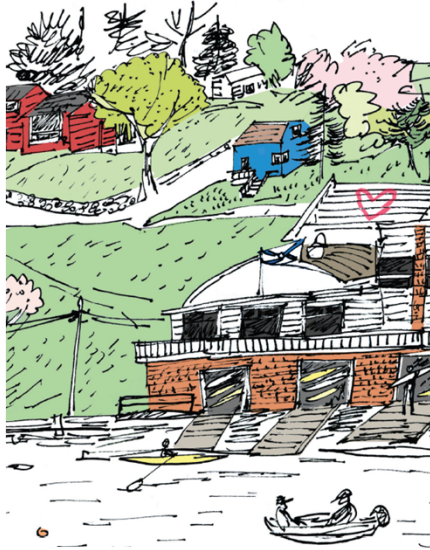


10

Environmental management was one of the core underpinnings of the Regional Plan when it was first adopted. The 2006 plan identified the natural environment as one of HRM's defining features, and recognized that growth and development in HRM had been and would continue to be shaped by a network of open space. We have furthered this understanding with the adoption of the Halifax Green Network Plan in 2018. It provides a high-level overview of the areas and features that contribute to the region's Green Network. The Green Network Plan recognizes the important role that our natural open spaces play in both mitigating and adapting to the effects of climate change, by capturing, storing and reducing atmospheric carbon and offsetting the Region's greenhouse gas emissions, as well as reducing the impacts of floods and heat waves by regulating stormwater runoff, stabilizing micro-climates, reducing wind effects and limiting the urban heat island effect.

HalifACT 2050

ACTING ON CLIMATE TOGETHER



www.halifax.ca/climate

HalifACT

HalifACT: Acting on Climate Together is the Municipality's long-term climate action plan to reduce emissions and help communities adapt to a changing climate.

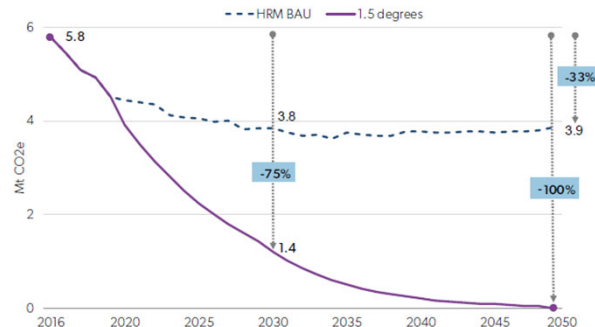
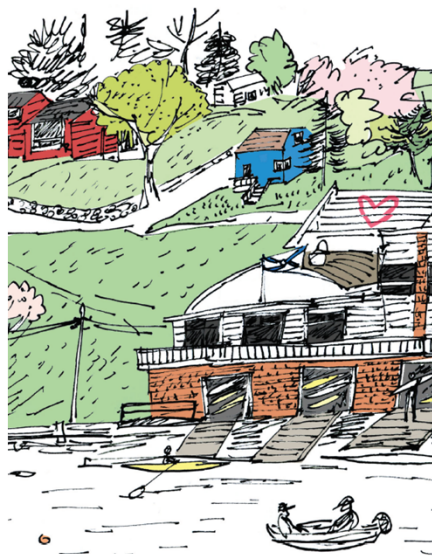


Figure 2. Halifax's 1.5°C pathway and carbon budget

Adopted by Regional Council in 2020, HalifACT is the Municipality's climate action plan to reduce emissions and help communities adapt to a changing climate. The Plan is aligned with the low carbon pathway recommended by the Intergovernmental Panel on Climate Change, which suggested that the risks of climate change could be substantially reduced if global warming was limited to 1.5 degrees Celsius above pre-industrial levels. HalifACT sets several emissions reduction targets, including a target of net-zero municipal operations by 2030, community-wide targets of 75% emissions reduction from the 2016 baseline by 2030, and achieving net-zero emissions by 2050. While the target of net-zero emissions is important, Halifax must commit to a steep reduction pathway to limit total emissions over time and stay within our carbon budget.



THE REGIONAL PLAN REVIEW WILL:

- Update the Environment, Energy and Climate Change chapter of the Regional Plan to reflect HalifACT's emissions reduction targets
- Consider climate impacts across issue areas

HalifACT is a community-wide plan with many stakeholders, and implementation requires us to think of climate impacts in all the work that we do. The Regional Plan can take a powerful role in setting that direction. Through the Review, we will develop policy, complete additional study and set up future work to implement the recommendations of HalifACT.



Efficient, Resilient Buildings and Renewable Energy



To achieve the Municipality's climate action goals and reduce our collective GHG emissions, HalifACT's recommendations include specific actions that can be supported through planning policy and land use regulations.

THE REGIONAL PLAN WILL:

- Review land use by-law regulations to remove barriers
- Consider opportunities to support net-zero and climate resilient new construction
- Explore opportunities for alternative energy systems, like district energy or microgrids
- Ensure policy and regulations are up to date with new technology (e.g. wind energy policy)

13

The Regional Plan has an important role to play in setting our land use planning policy and regulations in a way that supports our emission reduction targets.

In 2016, buildings accounted for 70% of HRM's total energy use and 77% of total emissions. Retrofitting existing buildings and ensuring that new buildings are more efficient is necessary for a successful energy transition.

One of the most important things we can do, is make sure that there aren't any barriers in our planning policy or regulations that would make it difficult for people to use these new energy efficient technologies. For example, are there regulations that would prevent installing solar panels because of height restrictions, or are there limitations on where electric vehicle charging stations could go on a site? So we can do that review of our regulations through the Regional Plan Review.

We may also have opportunities through discretionary planning applications – which require Council review and approval. For example, we could write policy that requires Council to consider the energy efficiency of new developments, or when we are designing new communities through a master planning process, are there opportunities to consider alternative energy systems? The HRM Charter allows us to require district energy for the Cogswell area – and we can explore if there might be opportunities elsewhere as well.

And finally, where there are existing policies and regulations, it will be important that those are kept up to date. For example, our wind energy policy was adopted in 2011. Through the Review, we will check to make sure that that policy reflects current wind energy technology.



Emergency Management and Critical Infrastructure Resiliency

Understanding climate change hazards and impacts, especially in vulnerable communities, are a critical aspect of Emergency Management and a core action of HalifACT.

THE REGIONAL PLAN WILL:

- Identify current and future climate change hazards and critical infrastructure at risk to extreme climate events
- Adopt policy to prioritize resiliency measures to reduce risk, protect critical infrastructure and require building back better
- Adopt policy to require emergency management services and climate change hazard projections are considered as part of the development process

14

Understanding climate change hazards and impacts, especially in vulnerable communities, are a critical aspect of Emergency Management and a core action of HalifACT. As climate events become more extreme and occur more frequently, we can expect more disruptions and damage to our critical infrastructure systems, which include energy, telecommunications, transportation, our water supply, wastewater treatment, solid waste management, buildings and food systems.

We must take action to proactively protect and strengthen our critical infrastructure and improve community resilience.

The Municipality can take a leadership role to identify current and future climate hazards, and critical infrastructure that may be at risk to extreme climate events.

Once we have identified those risks, we can develop strategies to mitigate them.

The Regional Plan can include policy to prioritize resiliency measures to reduce risk and protect critical infrastructure, and require that we build back better. For example, where we know there will be significant risk from sea level rise and extreme water levels on our coast, land use policy can direct important infrastructure away from those areas.

Where we are regularly planning for new development in our communities, Regional Plan policy can require that we consider emergency management and climate hazard projections early in the development process.



Managing Water Resources

Protecting the Municipality's water resources is critical for our potable water supply, supporting wildlife and overall ecological health, recreation use and aesthetic values.

THE REGIONAL PLAN REVIEW WILL:

- Adopt policy to support a comprehensive water quality monitoring program
- Update policy to support ongoing work to improve stormwater management practices
- Review wetland and riparian buffer regulations
- Continue to require studies of environmental features as part of planning for future serviced communities

15

Protecting the Municipality's water resources is critical for our potable water supply, supporting wildlife and overall ecological health, recreation use and aesthetic values. The Regional Plan directs land use policy to regulate water flow, mitigate flooding, reduce water pollution, and protect ecological function.

Through the Regional Plan Review, we will both be supporting ongoing work and looking at ways to update our existing regulations.

Some ongoing work includes the proposed water quality monitoring program, which has recently been considered by the Environment & Sustainability Standing Committee. Assuming the proposed approach is adopted by Council, we would plan to write Regional Plan policy which supports that work. Where the proposed program involves working with community, the policy can lay out that direction so we can continue to build those partnerships.

Another ongoing piece of work has been on stormwater management – so our Infrastructure Planning group has been working with Halifax Water on updating the joint stormwater standards, first for large scale developments on private property - and the Municipal Design Guidelines or “Red Book review” is looking at both the public right of way and using green infrastructure.

The Regional Plan includes policy and sets up land use by-law regulations for riparian buffers around watercourses, and there is some regulation around wetlands, which aim to protect these features from being damaged by development. The HGNP identified the need to further protect riparian areas and establish a consistent watercourse buffer across the region. Greater protection for wetlands is also needed,

as these areas serve important roles for natural stormwater management, provide wildlife habitat and act as carbon sinks. So we are intending to review those policies and regulations and make those updates.

And finally, the Regional Plan sets out requirements for studying environmental features before development can take place for new communities, and we will continue to do that as we plan for future growth.



Coastal Protection

Sea level rise and extreme water levels, exacerbated by increasing frequency and intensity of storms, is expected to significantly impact the Atlantic Coast.

HRM can expect impacts from sea level rise and extreme water levels in coastal areas, including:

- Flooding
- Saltwater intrusion
- Coastal erosion

All of which can significantly damage infrastructure, property and natural features. Limiting damage to coastal communities and ecosystems will require carefully managing development in these areas.

HRM will continue to work with the Province to develop and adopt revised policies and regulations consistent with the Coastal Protection Act and tailored to the HRM context.

Regarding Coastal Protection –

We expect that sea level rise and extreme water levels, exacerbated by increasing frequency and intensity of storms, will significantly impact the Atlantic Coast.

As a result of climate change, HRM can expect significant impacts from sea level rise and extreme water levels in coastal areas, including: flooding, saltwater intrusion and coastal erosion,

all of which can significantly damage infrastructure, property and natural features. As a result, it is very important to limit damage to coastal communities and ecosystems by carefully managing development in these areas.

The Regional Plan does set out vertical setback requirements that are implemented through the various community land use by-laws, but we've identified a few gaps in the way this regulation works.

The Province is continuing to work on the Coastal Protection Act regulations. We have been meeting with the Dept of Environment to understand their proposed approach. We are hoping that our timelines will align, so that we will be in a position to adopt revised policies and regulations that are consistent with the Coastal Protection Act and also tailored to the HRM context. If our timelines don't align, there are likely still some adjustments to be made to our policies to strengthen them.



Naturalization

The Halifax Green Network Plan and HalifACT both encourage the inclusion and maintenance of natural areas and green infrastructure in communities where growth is located or planned. The Urban Forest Master Plan provides direction for planning, programming and maintaining HRM's urban forest.

Natural areas and green infrastructure help to:

- manage stormwater
- reduce the heat island effect
- improve water quality
- provide shade
- sequester carbon.

This kind of naturalization work is already being piloted in HRM to improve the environmental health in our urban areas.

17

And finally, the Halifax Green Network Plan and HalifACT both encourage the inclusion and maintenance of natural areas and green infrastructure in communities where growth is located or planned. The Urban Forest Master Plan provides direction for planning, programming and maintaining HRM's urban forest. Natural areas and green infrastructure help to:

- manage stormwater
- reduce the heat island effect
- improve water quality
- provide shade
- sequester carbon.

This kind of naturalization work is already being piloted in HRM to improve the environmental health in our urban areas and contribute to our actions on climate.

Panelists

Slide 18

Shannon Miedema, Program Manager, Energy and Environment

Kevin Boutilier, Clean Energy Specialist, Energy and Environment

Taylor Owen, Climate Change Specialist, Energy and Environment

Kate Greene, Program Manager, Regional Planning

Leah Perrin, Principal Planner, Regional Planning (Plan Review)

HALIFAX

To learn more, ask questions, join the project's mailing list and make your voice heard:

Visit: www.shapeyourcityhalifax.ca/regional-plan

Email: regionalplan@halifax.ca

Phone: 902.233.2501

Stay updated on other events and engagement opportunities by following the Halifax Regional Municipality on social media and Shape Your City.

HALIFAX

**Thank You
For Your
Participation!**

Regional Planning



regionalplan@halifax.ca



902-233-2501

Shape Your City: www.shapeyourcityhalifax.ca/regional-plan

Public feedback will be collected until July 16

Slide 20

Regional Plan Review

Transcript – Climate Virtual Q&A (June 15, 2021)

This transcript has been edited for content and clarity.

QUESTION: What is happening to meet our retrofit targets in HRM?

Shannon Miedema, Program Manager, Energy and Environment

That's one of the seven critical core areas that we put forward to Council when we took the plan to them last June. We saw it as an area where the city had a really big role to play in moving forward and building industry capacity and market readiness for deep energy retrofits of our existing building stock. Our first order of business is to design a community program that incentivizes deep energy retrofits, renewable energy on buildings as well as climate resiliency considerations. We're looking at how to reduce risks from climate at the same time as doing work on any one particular building. We have a retrofit design team with many different stakeholders who are experts in different parts of this work, and they've been working on a weekly basis to try and come up quite quickly with a pilot program to test out. We will be bringing that forward to Council this summer for approval and starting to roll it out.

QUESTION: I'm glad you showed the Saint Mary's Boat Club. The boat club is a casualty of climate change with rising ocean levels - the club floods every year. Has the city decided if it wants to build a new boat club or move the existing building higher up the hill?

Shannon Miedema, Program Manager, Energy and Environment

We have done some work at that site a number of years ago. They did a 'living shorelines' pilot project on some of the eroding shoreline at the St. Mary's Boat Club in partnership with some nonprofit groups and with the Nature Based Solutions business. I think it was being monitored by a PHD or postdoc student at Saint Mary's University. In our capital plan, a few years out, there is some money marked for the renewal of that asset that will require looking at the current and future climate risks of that site and trying to figure what is the best long-term, climate-informed solution. One of the other things we are working on across our whole community is doing some climate hazard mapping and risk and vulnerability assessments of our infrastructure and our assets across the whole spectrum of what we own and across the entire shoreline. The St. Mary's Boat Club would be

part of that overarching work as well.

QUESTION: I would like to provide feedback relating to the climate change section to the Regional Plan Review team, and ask the related question: Section 9 of the Themes and Directions report, Leading Through Action on Climate speaks to updating the Environment, Energy and Climate Change chapter to reflect the net zero emissions targets laid out in HalifACT 2050 and to require consideration of climate impacts across all issue areas. It is great to hear that this chapter will be updated and expanded. However, especially as the HalifACT 2050 plan takes on a whole of community approach to addressing and mitigation the effects of climate change in HRM, I would like to hear whether the issue of climate change will be elevated within the next iteration of the Regional Plan beyond consideration within this single chapter. HalifACT 2050 puts forward some of the most ambitious climate targets of any North American city, and I would like to hear any comments on whether something like a requirement to apply a climate lens to all decisions which fall under the Regional Plan is being considered, and if so what that would look like. For example, would there be a consideration of adding a focus of mitigation of climate change (and emissions reductions) explicitly into the guiding Principles of the Regional Plan?

Kate Greene, Program Manager, Regional Planning

I would say that we agree with your statement. You've asked if the focus on mitigation of climate change can be included in the principles, and we have done that, especially in the idea of transforming as a community. We think that we almost need to leapfrog in managing our growth right now and we see the lens of climate change as being one of the most important ways we need to think about how we're growing. It's of critical importance to us and it will be elevated throughout the Regional Plan Review, and likely the Regional Plan itself as compared to the last iteration. Shannon Miedema is on our steering committee and she's helping us guide the Regional Plan Review because we think this lens of climate change is so important to our work right now. She's at the table helping us make decisions and making sure we're guiding the municipality in the right direction.

QUESTION: Is there a plan for wilderness stewardship training of volunteers to mitigate the inadvertent damage caused by the public use of the wilderness for recreation?

Kate Greene, Program Manager, Regional Planning

I'm not aware of a plan right now for training of volunteers, a specific plan. Although some other folks on the in the group might be aware of that. We have been speaking with our Parks and Recreation team about how we manage the interface between development and wilderness areas and how we organize land use strategically to prevent impacts on really important ecological areas. An example of this would be where you have development and then you have a wilderness area directly adjacent. You organize the development in the park in such a way that the heavier used portion of the park, where we're going to have people using it often, abuts development and provides a bit of a buffer to the actual wilderness area or portion of the land that you want protected. We've been talking a lot about partnerships and how we work in partnership with community to manage the environment. That's a way that we need to work with community right now, so that there's education and that we can make the public more aware of human impacts on wilderness areas. I expect to see that conversation evolve over the coming years.

Shannon Miedema, Program Manager, Energy and Environment

I would add that the province has designated wilderness areas that have a set of restrictions for use so they're very different from parks and parkland. They have a certain amount of enforcement. I'm not sure if they are working with volunteers on any type of remedial activity but that would be a question for the province.

QUESTION: With rising land costs does the city plan on upping its budget for acquiring new parkland? I think it is at 500k a year now but that won't be enough. For example, a piece for Blue Mountain sold for 2.9 million.

Kate Greene, Program Manager, Regional Planning

This is something that Council is grappling with right now. We presented on the Themes and Direction Report at Committee of the Whole, and that question did come up around how we manage our parks, think about parks at a regional level, and strategize on how to acquire important pieces of

land. There is a plan for acquisition that's already in the budget, and that Parks and Recreation works toward, but if we want to make that larger and actually acquire significant pieces of land, then that would probably be direction that Council would need to give staff. It's being raised, especially with the conversation around Blue Mountain Birch Cove Lakes and the Sandy Lake area. People are interested in understanding what can be done to preserve land over time.

QUESTION: What are you doing to increase the adoption of electric vehicles across the community?

Kevin Boutilier, Clean Energy Specialist, Energy and Environment

We're just finalizing a municipal electric vehicle strategy and it's going to have both a public and a corporate component to it. The public component will determine where and in what quantity should public EV charging be available for public use. The intention of the public deployment plan is to ease range anxiety for property owners who are looking to get electric vehicles, which is a major concern and a major barrier that is perceived by folks wanting to switch to electric vehicles. It also gives an indication that there are investments being made in this space, so that if you were to go EV, you'll be in a good spot in the long term. We're also looking to work with the Province to try to implement some policies to make EV adoption a lot easier, to ensure that there is a stock at dealerships - it is actually very difficult to get them currently. With regards to our corporate initiatives, we're looking to electrify our entire light duty fleet by 2030, so that strategy is hopefully going to be public later this summer and then we will start implementation.

QUESTION: In terms of the targets that we've set for 2030 and 2050. Do you feel that it's possible to meet the targets that we have set?

Shannon Miedema, Program Manager, Energy and Environment

That's the \$22 billion question! That is the collective estimated guess of how much the climate plan will cost everybody in HRM, but with the resulting additional \$22 billion to the good starting to be realized in 2030. This is over 30 years, but Halifax is called HalifACT because the ACT stands for Acting on Climate Together. As the city, we recognize that we play an important role and we can directly control some of our emissions,

about 2% of the total emissions. It's about working with all of our stakeholders and opening up policies and using those different levers that we have to galvanize the climate action movement in the city. It's 100% technologically possible, financially possible, but it's about doing things differently and being comfortable with getting away from our business as usual approach where we take a really long time planning. We really need to dive into the action. We need our utilities, other levels of government, and all of our residents as well. If we all do our part and mobilize quickly to do it, then we can succeed. We really need to aggressively drive down our emissions by 2030. Our window of opportunity is narrowing and so that's the pressure. It's urgent and we need really scaled-up action. We've done some really great things that we can build on, but we really need to start scaling them up and acting much more quickly than we have been.

QUESTION: I would love to hear more on what will be incorporated into the Regional Plan to ensure that the expansion of the HRM's solar energy financing program Solar City will allow HRM to further support deep energy retrofits needed across the municipality to meet HRM's ambitious climate goals? What considerations are being taken to support homeowners, renters, rental property owners as they consider participation in such programs?

Shannon Miedema, Program Manager, Energy and Environment

It's probably not really the role of the Regional Plan other than to enable types of directions on programs. That's much more of a kind of technical question.

Kevin Boutilier, Clean Energy Specialist, Energy and Environment

It may be the role of the Regional Plan to limit barriers that may exist. With the current Solar City program, we do have legislative authority to expand that to energy efficiency measures, so anything that does reduce greenhouse gas emissions. However, it is limited to non-profits or residential properties. We're looking to develop a new program with the design group that we've developed in the last couple of months to expand the program so it can hit many more measures, but also to be more equitable to other property owners and other property types. We are looking to be successful through a funding grant through the Federation of Canadian Municipalities to do a study to determine what type of accessible financing would be best for renters or for low-medium income property owners. We're hoping to work with third party finance or investors so that

we can go beyond our current PACE [Property Assessed Clean Energy] program limitations to ensure that all property owners within the municipality, regardless of the ownership type, can implement these energy efficiency or similar measures within their property. It is currently ongoing.

Kate Greene, Program Manager, Regional Planning

We're also thinking about affordability and the idea of energy poverty. We're in a tricky housing situation right now. Many people are struggling to make ends meet and be living in housing that they can afford. Energy poverty is something that we're thinking about actively and trying to build into the affordable housing conversation. We have to think holistically in everything we're working on, whether it be housing or just how we're organizing land use. We have to have this view of climate and understand how it's impacting people on a lot of levels. Solar energy, and just allowing people additional opportunities to try out different technologies at the site level are really important, and in planning we're just trying to remove barriers but also advocate for that type of thinking in all our work.

QUESTION: Does the municipality have any additional data that would help us assess climate risks?

Shannon Miedema, Program Manager, Energy and Environment

As part of the climate plan development we had our consultants put together the current and anticipated climate risks for the municipality which comes from the Intergovernmental Panel on Climate Change. They're about to release their next major report this summer. We're a little scared for what it's going to say because every time they release a new report, things are more serious than the last time. We have heard that that's what we can expect this time around in terms of things like the rate of change for sea level rise and extreme storms. We work with our partners locally to hone into the global numbers to make them relevant at a local scale. The federal government has some great online resources. The [Climate Atlas](#) is a great place to start for anyone wanting to look at that type of information. We also have work that was done on floodplain modelling along the [Sackville Rivers](#), the Shubie system. That is all available publicly. We also have LIDAR so we have really detailed digital elevation modeling for our entire municipality now. We used to just have it for a subsection. It's now our entire coastline, watersheds, and topography, and that can be used for so many different applications and that's available on [Open Data](#). Students,

academics, consultants, everybody can access it for research in different projects. That will form the base of all the new climate in flood risk mapping that we're going to be doing once we get the data from the international report.

QUESTION: What actions are being taken when we're thinking about protecting residents from the increasing impacts of climate change?

Shannon Miedema, Program Manager, Energy and Environment

Adaptation is really interesting. We spent a lot of time at first on mitigation and then realized that even with all our efforts around mitigation, we need to look at adaptation. We need to look at preparing ourselves for impacts that we have already experienced and that we know we will experience again and probably at changing rates and changing severities over time. It's about building resilience, resilient communities, safe communities, safe and resilient infrastructure, and healthy ecosystems. There is a lot of work to do on this side of things. We only hired our first Climate Change Specialist focused on adaptation a couple of months ago. Our first order of business is working with the province on their Coastal Protection Act to see what regulations are going to come through for HRM in terms of how we manage planning and development along the coasts. We're also trying to get going on our climate hazard mapping and doing some risk and liability assessments of critical infrastructure, and we're working with our emergency management team on that as well. There's lots of work to do.

QUESTION: How we are engaging with stakeholders in HalifACT?

Taylor Owen, Climate Change Specialist, Energy and Environment

In the creation of the plan we did a lot of stakeholder engagement. We have almost 400 people including internal stakeholders, those are people across HRM. We're working with a lot of different business units as well as external organizations including different levels of government, academic institutions, nonprofits, businesses, Nova Scotia Power, and our utilities. That group came together to help us inform how the plan was created and we've been putting a lot of work into keeping that group together, because it was really informative for us and a good group to have together to be able to bounce ideas around and get some action going. That group has now been moving into the implementation phase, and we've been meeting

on a quarterly basis to provide updates on how the plan being implemented as well as what the climate actions are that are happening across the city that are feeding into this collective action of implementing the plan. We've also been doing some collective impact work, bringing together a lot of different people from different stakeholder organizations to start working on projects together and driving down emissions or coming up with adaptation projects. It's been a great opportunity to connect with people working on climate across the city.