

It's Time to Commit to 2030

A Climate
Emergency
Response to the
Halifax Regional
Plan Review

Sierra Club Canada Foundation, Atlantic Chapter
July 16, 2021

Introduction

The Halifax Regional Municipality has made some important strides in addressing the climate crisis and advancing the local conversation around climate change. The Sierra Club Canada Foundation would like to acknowledge those efforts.

The following recommendations include a number of ways that the HRM Council can respond to the climate emergency more quickly and effectively by incorporating more decisive action and earlier time frames in its Regional Plan.

This response also identifies areas in which the HRM Council's decisions have been inconsistent with its stated climate commitments. The Council has declared a climate emergency and regulated beneficial measures to reduce greenhouse gas (GHG) emissions and protect biodiversity. But it has also approved contradictory measures that will harm the environment and increase the municipality's carbon footprint.

Our goal is to identify policies and measures that the HRM Council can include in the Regional Plan to better address the climate emergency, and ensure a rapid transition to an equitable, sustainable, low-carbon future for all people living in the Halifax Regional Municipality.

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1. Plan for a 2030 Net-Zero Emissions Time Frame

Many of the climate strategies discussed in the *Themes & Directions* report are aligned with achieving net-zero emissions by 2050, the ultimate goal of the [HalifACT](#) climate action plan. However, it has become increasingly clear that a net-zero target date of 2050 will not prevent catastrophic climate effects, including in the Halifax Regional Municipality.

According to a new scientific report, *Climate Reality Check (2020)*:¹

- A 2°C global rise in temperature is likely to occur before 2050, even *with* stronger climate actions that go beyond the current Paris Agreement commitments
- The world's current trajectory of greenhouse gas (GHG) emissions could cause global temperatures to rise by 3°C between 2050 and 2075 and by 5°C by 2100
- The current 1.2°C of global warming is already dangerous to humans and ecosystems
- An increase of 2°C would be extremely dangerous, 3°C catastrophic, and 4°C unlivable for most people

The HalifACT plan is designed to keep global temperature rise below 1.5°C, a goal that no longer reflects the severity or extent of the crisis.

The federal government's 2019 *Canada's Changing Climate Report* reveals that the annual average temperature in Canada has increased by 1.7°C since 1948. In northern Canada, the temperature has increased by 2.3°C.²

In the past month alone, Canada has experienced:

- devastating wildfires that continue to rage with no end in sight
- record-breaking temperatures that have caused hundreds of heat-related deaths
- extreme weather events, including flooding, tornadoes, mudslides, hail storms, and more

1. [Climate Reality Check 2020](#), p. 43, Breakthrough – National Centre for Climate Restoration, October 2020

2. [Canada's Changing Climate Report](#), p. 116, Government of Canada, 2019

WEATHER

Invermere pelted by hail despite raging wildfires, smoky skies in other regions of B.C.



By Doyle Potenteau · Global News

Posted July 3, 2021 7:50 pm



The District of Invermere, B.C., was pelted by hail on Friday afternoon. [Avalily Permaculture and The Earthskills Institute](#)

Source: Global News, July 3, 2021³

Key Recommendation

To meet the rapidly worsening climate emergency, the HRM Council must frame all policies and future developments with a net-zero emissions target of 2030, rather than 2050.

3. [Invermere pelted by hail despite raging wildfires, smoky skies in other regions of B.C.](#), Global News, July 3, 2021

2. When Growth Is Necessary, Consider the Needs of the Environment First

2.0 Future neighbourhood planning should not result in continued urban sprawl, as it has in the past. We urge the HRM Council not to expand developments into undisturbed areas; careful regional planning can utilize previously developed land, instead.

Many of the suburban areas in HRM have forests, wildlife, marshes, and lakes. While these neighbourhoods are serviced by municipal water and sewer, it's important to limit any future expansion in these areas. We encourage the HRM Council to honour the Halifax Green Network Plan by preserving areas the Plan identified as priorities for protection, such as greenways, riparian areas, and wildlife corridors.⁴

The forests of HRM act as much-needed carbon sinks, provide habitat for wildlife, and preserve biodiversity. Lakes are already suffering from the effects of climate change, with decreasing water levels and warmer waters that produce toxic blue-green algae. As urban sprawl diminishes natural habitat, deer increasingly roam in many suburban streets and yards; with deer come ticks and concerns about Lyme disease.

Preserving the natural environment and biodiversity needs to be an important component of HRM's response to the climate emergency. The municipality's actions, as well as its plans, must reflect this.

2.1 Many of the new housing developments that the HRM Council approved over the last decade were for oversized single-family homes, particularly in the suburban and rural regions of HRM.

The lots in Boscobel on the Arm, a short drive from the Armdale Roundabout, range from 8,372 sq ft to 110,088 sq ft. The homes built on these lots range from large single-family homes to "McMansions."⁵

4. [Halifax Green Network Plan](#), Halifax Regional Municipality, June 2018

5. [Boscobel Pricing](#), Boscobel



One of the oversized single-family homes in the Boscobel on the Arm housing development off Purcell's Cove Road⁶

This housing development was opposed by members of the community, who pointed out that some of the trees that would be cut to make way for the housing project included 250-year-old Hemlock stands.⁷

Nevertheless, the land was cleared and the mega-homes were built.

2.2 Residents in efficient, densely planned neighbourhoods (which contain accessible services and transportation) produce less CO₂ per capita than residents in surrounding suburbs.⁸ The transportation sector already accounts for 35 percent of all GHG emissions produced in the province.⁹ HRM can limit the growth of transportation-related emissions by focusing on densification in the Regional (urban) Centre.

6. [Boscobel Gallery, Boscobel](#)

7. [Paving paradise in Jollimore. Clearcutting, lack of consultation and damage to cemetery have residents upset](#), Halifax Media Co-op

8. [Cities and Greenhouse Gas Emissions: Moving Forward, 2020](#)

9. [Climate Change Plan for Clean Growth: Discussion Paper](#), p. 4, NS Department of Environment and Climate Change, May 2021

Key Recommendations

The Sustainable Development Code is a US-based think tank that helps municipalities develop zoning regulations, ordinances, and by-laws that favour environmentally responsible housing, business, and infrastructure projects.¹⁰ The Sustainable Development Code outlines three ways municipalities can foster local solutions to the climate crisis:

1. Remove obstacles (What in the existing code is harming your community?)
2. Create incentives (How can we encourage developers, homeowners, and others to adopt sustainable development practices?)
3. Fill regulatory gaps (What are the minimum standards your community will accept?)

We urge the HRM Council to pass new by-laws and bring in regulations that:

- prioritize the needs of the environment when reviewing and approving housing and building development projects
- limit the size of new single-family homes and prevent any further development of McMansion communities
- restrict new residential and business construction to lands that are already developed
- limit further expansion of municipal services for new developments in suburban and rural areas
- facilitate approvals and funding for housing developments that provide smaller, affordable, energy-efficient housing and use existing municipal services and infrastructure
- offer incentives to homeowners, businesses, and developers to accelerate the adoption of densification over urban sprawl

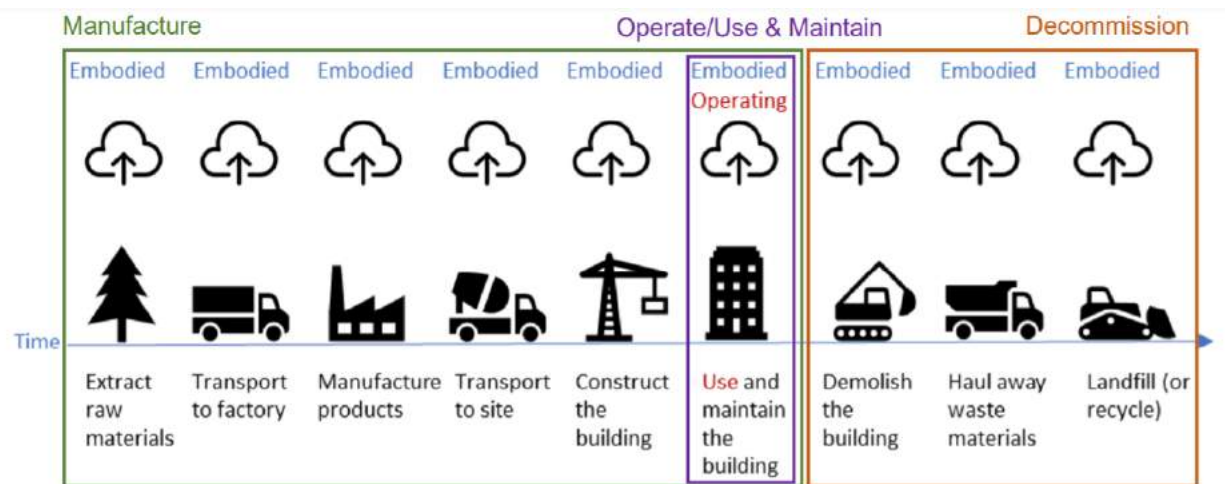
We also urge the Regional Council to take swift measures to formally protect ecologically sensitive and valuable areas within its purview, including Sandy Lake–Sackville River, Blue Mountain Birch Cove Lakes Wilderness Area, and the Purcell’s Cove Backlands. We encourage Council to pass a by-law requiring that assessment and mitigation of impacts on wildlife and wildlife habitats be considered in development proposals.

10. [About – Sustainable Development Code](#), Sustainable Development Code

3. Renovate Before You Demolish and Rebuild

Only operational building emissions (energy consumed for heating, cooling, ventilation, and plug loads) are accounted for in building emissions totals for Nova Scotia (and most of Canada).

Embodied carbon, in the context of buildings, refers to emissions associated with the materials extracted for construction, transportation, manufacturing, on-site construction, as well as decommissioning (including demolition, recycling, and landfill).¹¹



Source: Embodied Carbon in Construction¹²

“Embodied carbon emissions account for up to 75% of a building’s total emissions over its lifespan.”¹³

The City of Vancouver’s 2020–2025 Climate Emergency Action Plan commits to reducing embodied carbon emissions from new building and construction projects by 40 percent (compared to 2007 levels) by 2030.¹⁴

11. [Embodied Carbon in Construction](#), p. 2, Zizzo Strategy, December 2017
 12. [Embodied Carbon in Construction](#), p. 2, Zizzo Strategy, December 2017
 13. [The Carbon Footprint of Construction: Briefing Note](#), p. 1, Architects Climate Action Network, February, 2021
 14. [How we build and renovate | Climate Emergency Action Plan](#), City of Vancouver

HRM can reduce embodied carbon emissions by:

- building smart (using low-carbon materials)
- building efficiently (using fewer resources and wasting less)
- building circular (designing for reusing and recycling)
- building durable (designing for longevity)

This will require:

- accurately and transparently accounting for embodied carbon emissions in the sector
- reducing embodied carbon emissions through new building regulations, monitoring, and enforcement
- mandating a whole life-cycle carbon assessment for new construction projects
- ensuring that projects meet specified carbon targets in order to obtain a building permit

A whole life-cycle carbon assessment is a way to measure the environmental footprint of a building or infrastructure project over its complete lifespan, from the sourcing and transportation of building materials, to its end-of-life decommissioning.¹⁵

Using scientifically validated CO₂ ratings for raw materials, builders can estimate the carbon footprint of a new building and consider its impact on the air, water, soil, global warming, and more. It helps to see the potential environmental benefits of using local and robust materials that last longer and can be recycled.

These life-cycle carbon assessments, and the data used to inform them, should be transparent and readily accessible to the public.

15. [Embodied Carbon in Construction](#), p. 4, Zizzo Strategy, Embodied Carbon in Construction Policy Primer for Ontario, December 2017



Source: Life Cycle Assessment (LCA)¹⁶

“The greenest building is the one that is already built.”¹⁷

The best way to reduce any new embodied carbon emissions is by reusing existing homes and buildings rather than demolishing older ones and starting over again.

The Royal Institute of British Architects recently came out strongly against demolishing older buildings, saying that they should instead be refurbished to reduce embodied carbon emissions.¹⁸ Unfortunately, many buildings are written off much earlier than necessary to make way for something shiny and new.

16. [Why Should Architects Understand and Care About Carbon and Life Cycle Assessment?](#) ArchDaily, May 20, 2021

17. [The Greenest Building Is One That Is Already Built](#), The Journal of the National Trust for Historic Preservation 21, no. 4, Elefante, C., 2007

18. [RIBA Architects say building demolitions cause of carbon emissions](#), BBC, July 8, 2021

Currently, HRM Council is considering two proposed development projects that would result in the demolition of more than a dozen mixed-use, small-scale, historic buildings in the Carlton Street block (bounded by Spring Garden Rd, Robie St, College St, and Carlton St). These historic buildings provide numerous affordable housing and commercial units. The proposed plans would replace these with 4 highrises, ranging from 16 to 29 stories, plus penthouses.^{19 20}



Some of the houses in the Carlton Block that would be demolished to make way for new highrises if the HRM Council approves the development project. (Photo: Heritage Advisory Committee)²¹

When a community, such as Halifax, is full of demolitions and new construction projects, it is not a sign of sustainable prosperity or economic growth; rather, it is an indication that there is still a lack of understanding or disregard when it comes to the impact of embodied carbon on climate change.

Key Recommendations

The HalifACT plan says very little about embodied carbon emissions in new construction, except that HRM should begin accounting for embodied carbon in the building sector in six to ten years.²² The Plan does not propose any targets to reduce embodied carbon emissions or regulations to bring them about.

It's imperative that the HRM Council fully understand the impacts of embodied carbon emission in construction and enact strong measures to rapidly reduce it. The Council must also implement measures that prohibit or disincentivize demolition and incentivize refurbishing buildings and homes, instead.

19. [Embodied Carbon Report](#), Peggy Cameron, July 2021

20. [Carlton block's "upward creep" proposals ignore both public concerns and HRM Regional Plan policy considerations](#), Nova Scotia Advocate, July 4, 2021

21. [Halifax Heritage Advisory Committee: Case 2076](#), Halifax Regional Municipality, June 23, 2021

22. [HalifACT: Acting on Climate Change Together](#), p.49, Halifax Regional Municipality, 2020

4. Prepare for Sea-Level Rise

In addition to eliminating embodied carbon emissions in the building sector, HRM must quickly enact measures to prevent new construction close to the coastline.

HRM has one of the most severe rates of sea-level rise in Canada; about half of the increase can be attributed to global sea-level rise and the other half is a result of land subsidence (sinking of the ground surface).²³ It's already become more difficult and costly to get flood-protection insurance for coastal properties.

Despite the risks of coastal sea-level rise and subsidence, there are plans to build a new Art Gallery of Nova Scotia on the Halifax waterfront. As local Halifax residents know, the waterfront has experienced major storm surges and flooding in recent years, resulting in significant and costly damages.^{24 25}

Sea-level rise models suggest that parts of the Halifax waterfront could be underwater in a matter of decades.²⁶

"If you look at the history of climate change modelling and prediction over the past 15 years, usually it turns out worse than the models predicted."²⁷

When we consider the projected lifetime of new buildings on the Halifax waterfront (40 to 100 years), it's clear that such plans would be detrimental to the environment and efforts to reduce GHG emissions.²⁸

Key Recommendations

The HRM Council needs to use every power available to prohibit and disincentivize new construction near the shoreline and in coastal areas.

HRM Council must reopen discussions with the Province and the Nova Scotia Art Gallery to select a new, less vulnerable location for the project before construction gets underway.

The HRM Council must also urge the Province to implement regulations to guide and enforce the 2019 Coastal Protection Act.

23. [The big picture: The looming threat of rising sea levels — and what we can do about it](#), Dal News - Dalhousie University, December 12, 2019

24. [Maritime Coastal Flood Risk Map - NS](#), Nova Scotia Community College, Applied Geomatics Research Group

25. [Coastal Risk Screening Tool](#), Climate Central

26. [Coastal Risk Screening Tool](#), Climate Central

27. [Rising seas and climate change: Everything you need to know](#), The Globe and Mail, May 14, 2020

28. [With increasing sea level rise, does it make sense to build a new Art Gallery of Nova Scotia on the waterfront?](#) Halifax Examiner, May 7, 2019

5. Net-Zero Buildings by 2030

Halifax Regional Municipality still has a lot of work to do to reduce the operational carbon emissions in the residential and commercial building sectors.

As the HalifACT plan points out, “Fuel and electricity consumption in residential, commercial and industrial buildings accounted for 70% of all energy use in Halifax” (according to 2016 data).²⁹

The Canada Green Building Council offers guidance on building and retrofitting buildings to achieve net-zero carbon emissions; it also provides Zero-Carbon Building Design and Performance certifications for those that do.³⁰ The completed building projects are truly inspiring.

**Evolv1: the first
Zero Carbon
Building – Design
Certification**

Canada Green Building Council³¹



**Humber College
Building NX:
first retrofit Zero
Carbon Building –
Design Standard
certification**

Canada Green Building Council³²

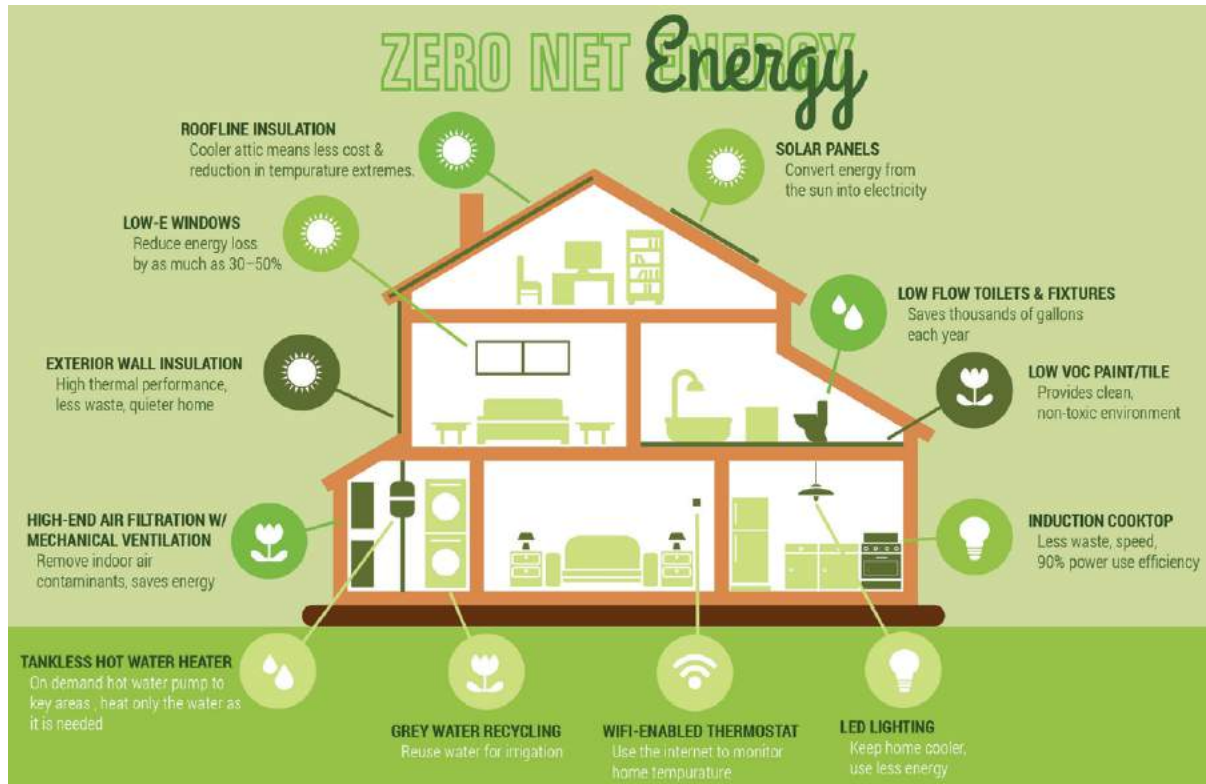
29. [HalifACT: Acting on Climate Change Together](#), p. 28, Halifax Regional Municipality, 2020

30. [Canada's Zero Carbon Building Standard Celebrates First 10 Certifications](#), Canada Green Building Council, November 27, 2019

31. [The First Zero Carbon Building- Design Certification](#), Canada Green Building Council- CaGBC, Youtube

32. [Humber College Building NX: First Retrofit Zero Carbon Building- Design Standard Certification](#), Canada Green Building Council- CaGBC, Youtube

“As of January 1, 2022, the Vancouver Building By-law will require zero emissions equipment for space and hot water heating, as well as additional roof insulation, in new low-rise residential buildings.”³³



Source: CREARTE³⁴

The money saved on energy costs will “more than offset the upfront capital costs” to achieve net-zero building standards.³⁵ Net-zero buildings—whether achieved through deep retrofits or new construction—can be designed to produce more green energy than they require. They can then provide surplus energy back to the local communities to help support the clean energy transition.

Key Recommendations

The HalifACT plan calls on HRM to “develop, adopt and apply a standard for net-zero and climate resilient new construction” by 2030.³⁶ However, the technology to build to net-zero standards is already readily available—and affordable.

As the climate crisis accelerates, so too must HRM’s response.

We urge the HRM Council to require that any new homes and buildings be net-zero or net-zero ready beginning in 2022.

33. [Zoning amendments to support the Climate Emergency Response](#), City of Vancouver

34. [BASIX / NatHERS: Zero Net Energy](#), Createe

35. [The First Zero Carbon Building- Design Certification](#), Canada Green Building Council- CaGBC, Youtube

36. [HalifACT: Acting on Climate Change Together](#), p. 36, Halifax Regional Municipality, 2020

6. Prioritize Deep Energy Retrofits

Canada's Climate Retrofit Mission, a new report by Efficiency Canada and Carleton University, sets out the pathways for achieving net-zero retrofits. It also presents an ambitious mission — mass climate retrofits — to get all building stock to net-zero carbon by 2035:

By 2035, we will have retrofitted all of Canada's existing building stock to eliminate the direct use of fossil fuels and made our buildings zero-carbon ready, via a high level of energy efficiency and use of a decarbonized energy supply. Building retrofits will also contribute to the decarbonization of transportation and industry by redirecting existing clean energy resources away from energy waste.³⁷

This mission is not just about reducing carbon emissions; it's also about doing it in a way that helps mitigate the local impacts of climate change and address energy poverty:

Our buildings will be better prepared for extreme weather events brought on by climate change and become more comfortable, healthy, and productive places to be. In the process, Canada will have eliminated energy poverty and created high-quality housing conditions for Indigenous Peoples.³⁸

Today, there are turnkey and streamlined options for deep energy retrofits, which can be done more quickly and efficiently—and with less disruption—than conventional retrofits. The ReCover Initiative is introducing an energy-efficient, prefabricated, modular approach to Canada's deep energy retrofits, based on the success of EnergieSprong in the Netherlands.³⁹ The Dutch refer to it as a “net-zero energy makeover,” and it can be done in a week.⁴⁰

37. [Canada's Climate Retrofit Mission](#), Efficiency Canada & Carleton University, June 2021

38. [Canada's Climate Retrofit Mission](#), Efficiency Canada & Carleton University, June 2021

39. [ReCover Initiative—Our Story](#), ReCover

40. [Energiesprong explained](#), Energiesprong Foundation



Source: Energiesprong explained⁴¹

ReCover is working to prioritize deep energy retrofits for people experiencing energy poverty. In Nova Scotia, 37 percent of the population experiences energy poverty.⁴²

The ReCover Initiative is currently looking for municipalities with candidate buildings that can be fitted with deep energy retrofits by 2023 for demonstration purposes.⁴³

Key Recommendations

The HalifACT plan calls on HRM to “develop a retrofit program to enable and fast-track deep energy and climate resilience retrofits in residential and non-residential buildings” by 2040.

We urge the HRM Council to adopt the 2035 target set out in Canada’s Climate Retrofit Mission to complete the retrofit of all existing building stock to net zero.

We also encourage Council to partner with the ReCover Initiative to retrofit a building in Halifax that can be showcased as an example of a cost- and time-effective net-zero energy retrofit makeover.

41. [Energiesprong explained](#), Energiesprong Foundation

42. [The ReCover Initiative: Our Principles](#), ReCover

43. [The ReCover Initiative: Our Results](#), ReCover

Conclusion

HRM's Regional Plan requires more ambitious climate action and by-laws with enforceable regulations. The Regional Plan must prioritize the well-being of the natural environment over corporate profit and the demands of developers. As Professor William Lahey concluded, "Ecosystems and biodiversity are the foundation on which the other values, including the economic ones, ultimately depend."⁴⁴

The municipality should dedicate HRM's remaining carbon budget to creating small-scale affordable housing units in the Regional Centre rather than mansions in the suburbs.

Old habits die hard. It will take a concerted effort to change how homes and buildings are designed and built, how we travel within the municipality, and how we treat our natural ecosystems. We must learn to view these decisions through an environmental lens to protect what biodiversity remains.

This effort will require an amplified public awareness campaign about climate change and ways that decision-makers, residents, and businesses can effectively respond to the crisis.

An independent commission is necessary to oversee this process and ensure that building developers, large business owners, and industries with a vested interest in fossil fuels and resource extraction do not have an inordinate influence over HRM Council decisions.

The climate crisis and ecological breakdown we are facing are greater and more rapid than we could have imagined. The current situation requires HRM to implement stronger and more rapid measures to reduce GHG emissions, preserve remaining green spaces, and carefully guide HRM's growth and footprint.

This can be achieved through greater public accountability, independent and transparent carbon accounting, and science-based decision-making.

It's time to take decisive action, commit to net-zero by 2030, and double down to ensure a sustainable future.

44. [An Independent Review of Forest Practices in Nova Scotia](#), p.3, William Lahey, August 2018

It's Time to Commit to 2030

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