



The Corporation of the District of Saanich

Report

C/W 19 Aug 19

To: Mayor and Council
From: Sharon Hvozanski, Director of Planning
Date: August 8, 2019
Subject: Response to Saanich's Climate Emergency Declaration - New 2030 Target
File: 2560-50 • 100% Renewable Saanich



RECOMMENDATION

1. That Council adopt new climate targets of:
 - a. Achieving 50 % reduction of community-wide greenhouse gas (GHG) emissions below 2007 levels by 2030; and
 - b. Reaching net zero emissions before 2050 as a complement to the target of becoming a 100% Renewable Energy Community.
2. That Council direct staff to amend the Terms of Reference for the updated Climate Plan: 100% Renewable and Resilient Saanich, and replace the target of 80% reduction in GHG emissions below 2007 levels by 2050 with the new climate targets.

PURPOSE

At the March 25, 2019 meeting, Council responded to a correspondence from the Capital Regional District with respect to Climate Emergency Declaration and made a motion that:

“The District of Saanich declare a climate emergency and work towards achieving carbon neutrality in the municipality by 2030.”

This is the first of two reports staff will bring to Council in response to Saanich's climate emergency declaration. The purpose of this report is to provide background information and rationale for staff's recommendation on adopting new climate targets according to the Intergovernmental Panel on Climate Change (IPCC)'s new 2030 target. Bringing this report forward first will help inform the final phase of the Climate Plan public engagement and the accelerated actions as well as keep the Climate Plan development on schedule as much as possible. A second report which outlines the proposed accelerated climate actions is planned to be presented in late September or early October after the internal staff review process is complete.

DISCUSSION

Background

On October 2, 2017, Council gave direction for staff to update Saanich's Climate Action Plan, and endorsed the following community-wide targets:

- To become a 100% Renewable Energy Community by 2050; and
- To achieve an 80% reduction in community greenhouse gas (GHG) emissions by 2050 (below 2007 levels).

At the time of adopting these targets, the target of 80% GHG reduction below 2007 levels by 2050 was consistent with the research from the Intergovernmental Panel on Climate Change (IPCC) as well as BC Climate Leadership Plan published in 2016.

With those targets, staff began the process of updating the Saanich Climate Action Plan (completed in 2010) and Climate Adaptation Plan (completed in 2011) and developing a new Climate Plan that tackles the twin challenges of climate change mitigation and adaptation. The final Climate Plan: 100% Renewable and Resilient Saanich is anticipated to be presented to Council in fall 2019.

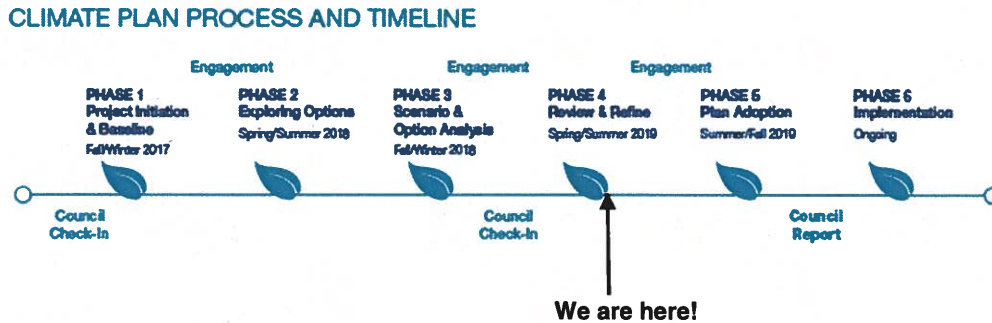


Figure 1: Climate Plan Process and Timeline

During the plan development, a community energy and emissions inventory was completed to measure GHG emissions from different sectors in Saanich (see Figure 2 below).

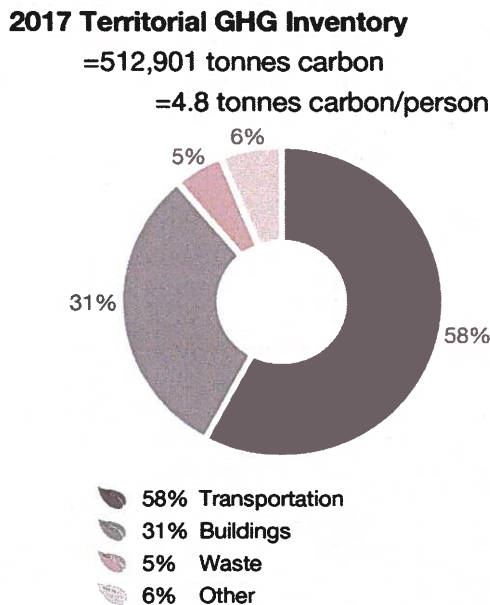


Figure 2: 2017 Territorial GHG Inventory

Energy and emissions modeling was used to develop scenarios and inform draft climate actions to achieve the set targets. Below is a wedge diagram that illustrates a pathway to achieving 100% renewable energy and 80% GHG reduction targets by 2050.

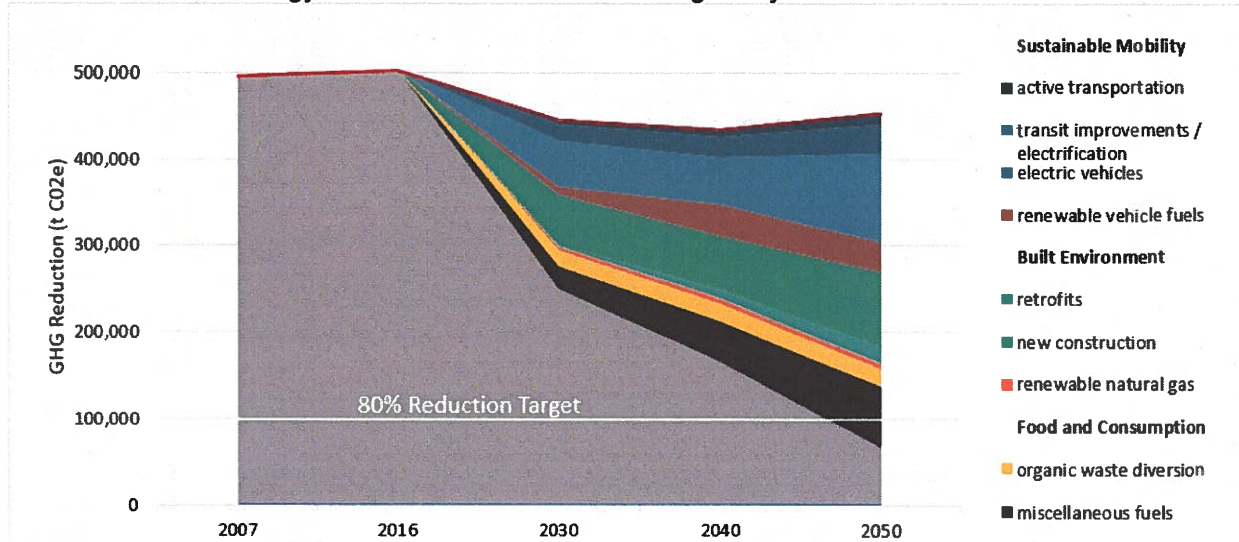


Figure 3: Pathway to achieving 80% GHG Reduction by 2050

The key findings from the scenario development exercise include:

- Vehicle electrification and existing building retrofits have the biggest GHG reduction potential (20.5% and 17.9% of total community GHG reductions respectively); and
- However, they alone are not sufficient (halfway to the 80% reduction target). A host of other measures have to be taken as well.

Intergovernmental Panel on Climate Change’s New 2030 Target

To limit global warming to 1.5°C, the Intergovernmental Panel on Climate Change (IPCC) suggested in a special report released in October 2018 that global net carbon emissions will need to decline by 45% from 2010 levels by 2030, reaching net zero around 2050 and net negative after. Less than 12 years are left for the world to change its current trajectory of carbon emissions.

The IPCC’s Special Report outlined the significant and more severe global impacts associated with 2.0°C of global warming as compared to a 1.5°C increase in temperature, and urged a strengthened international response to reduce emissions and avoid these grave impacts.

The potentially grave impacts include considerable changes in regional climate characteristics (e.g. extreme heat, heavy precipitation, drought, and sea level rise); impacts on biodiversity and ecosystems, including species loss and extinction; climate related risks to health, livelihoods, food security, water supply, human security, and economic growth. There are limits to adaptation and adaptive capacity of human and natural systems even at 1.5°C of warming; adaptation is expected to be more challenging and limits to adaptive capacity become more pronounced at higher levels of warming. Failing to stabilize global temperatures at 1.5°C above pre-industrial levels will significantly compromise progress toward sustainable development, eradication of poverty and reducing inequalities.

The report signals that rapid and far-reaching transitions in energy, land, transportation, buildings, and industrial systems are required in unprecedented scale. A wide selection of mitigation options and a significant increase of investments in those options are necessary. The need for fossil fuels will ultimately need to be eliminated through significant efficiency improvement and transition to renewable energy sources. In addition to emissions reductions, carbon dioxide removal (CDR) from the atmosphere will be needed through measures such as reforestation, land restoration and projects that capture and store carbon.

Global and Regional Movement

Since the release of the IPCC Special Report, a growing number of local governments around the world have declared a climate emergency, recognizing the importance of accelerating actions to curb global warming as well as preparing for climate change. Locally, the Capital Regional District (CRD) responded with a climate emergency declaration on February 13, 2019. Saanich Council made its own climate emergency declaration on March 25, 2019.

Aligning Saanich’s Climate Targets with 1.5°C

As the updated Climate Plan is yet to be finalized, Saanich is in a unique position to be able to revise targets and propose accelerated actions to reflect the latest understanding of actions needed to limit global warming to 1.5°C.

The IPCC Special Report made it clear that a target of 80% GHG reduction on a 2050 time horizon will not be sufficient. Proposed new targets of 50% GHG reduction (below 2007 levels) by 2030 and net zero emissions by 2050 will compel more ambitious climate action and be more consistent with the global GHG reduction needed to limit global warming to 1.5°C.

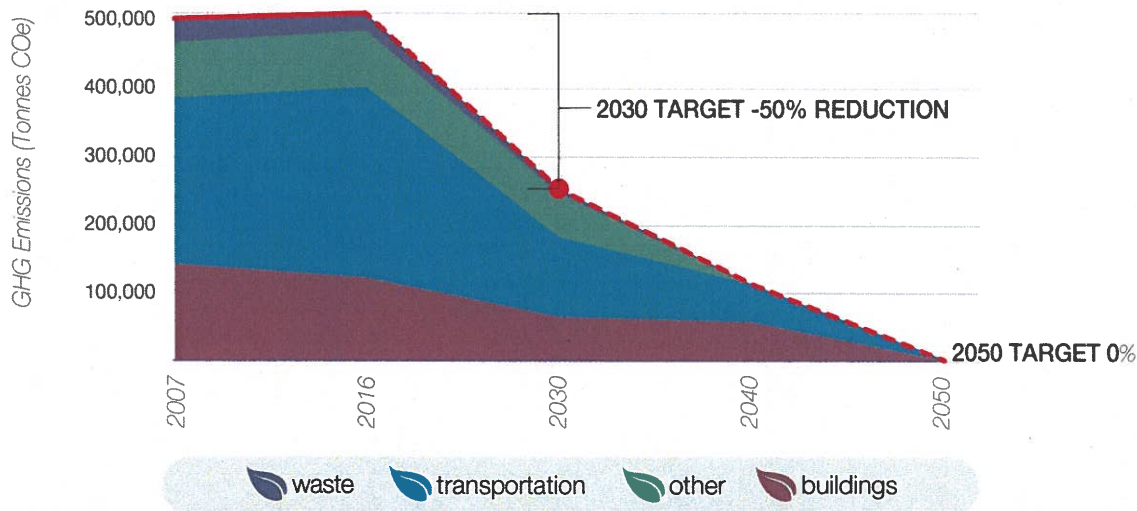


Figure 4: Proposed new 2030 and 2050 targets

An accelerated GHG reduction pathway will exceed the original climate mitigation targets set forth for the updated Climate Plan and help avoid significantly greater costs and efforts to adapt to climate change.

If the new targets are adopted, Council would direct staff to amend the Terms of Reference for the updated Climate Plan: 100% Renewable Saanich and replace the target of 80% reduction in GHG emissions below 2007 levels by 2050 with the new climate targets.

Committing to a 50% reduction target by 2030 requires a massive increase in zero emission vehicles and retrofits of a substantial share of Saanich's building stock. Additional time might be needed to complete energy modeling and new scenario development as well as to consider new or strengthened climate actions. Staff will endeavour to minimize the impact of additional analysis on current schedule of Climate Plan development.

Working towards Carbon Neutrality

There are two ways to achieve carbon neutrality:

1. Eliminate carbon emissions completely (reductions)

Taking this approach to achieve carbon neutrality by 2030 would mean eliminating all fossil fuel burning and transitioning to 100% renewable energy in Saanich in less than 12 years, a dramatically more aggressive GHG reduction target than the current and proposed climate targets and shortening the timeline to achieve carbon neutrality by 20 years. Achieving such a target will be extremely challenging in the absence of similar commitments, policy alignment and resource support from provincial and federal governments. Currently, the CleanBC plan, released by B.C. Government in December 2018, is expected to put the province on track for 75% of its target - 40% reduction below 2007 levels by 2030. Updates are expected on how it will meet the remaining 25%. Canada's target for GHG emission reductions by 2030 is 30% below 2005 levels (or 523 megatonnes of CO₂e).

In addition to transitioning to 100% renewable energy, carbon dioxide removal measures such as reforestation, restoration of coastal ecosystems could support further emission reductions. However, preliminary exploration in this area indicates that their potential to achieve emission reductions could be very limited in the short term, and they are unlikely to have a significant impact on the 2030 target as it takes time for ecosystems to restore and grow. It is proposed that Saanich collaborate with other local governments, First Nations and the CRD to better understand the technical feasibility and scalability of restoring local ecosystems to remove carbon dioxide. Partnership with potential stakeholders such as other levels of government, owners of large land/natural area and research institutions can be sought to support this effort. This action will be included in the draft Climate Plan: 100% Renewable and Resilient Saanich for evaluation and prioritization with other climate actions.

2. Balance carbon emissions with carbon removal (offsets)

Although there is no known precedence of any Canadian municipalities taking this approach to become a carbon neutral community, it is theoretically possible to achieve carbon neutrality by 2030 by means of purchasing carbon offsets.

The financial impact could be substantial. Assuming Saanich achieves 50% GHG reduction target by 2030, there would still be approximately 250,000 tonnes of GHG emissions that need to be offset that year for Saanich to become carbon neutral. The cost to offset 250,000 tonnes of GHG emissions in the community would be \$6.25 million based on a cost of \$25 per tonne of CO₂e¹. This approach would divert significant financial resources away from the emissions reduction efforts locally.

¹ B.C.'s public sector organizations (PSOs) are already required to be carbon neutral each year. Most PSOs will achieve that through the purchase of offsets procured by the Climate Risk and Investment Branch of the Ministry of Environment at a cost of \$25 per tonne of CO₂e. The cost of offsets may be higher in the future.

The offsets used for the community's emissions will have to be generated outside of Saanich's municipal boundary (Carbon removal projects within Saanich would be counted as reductions, described in the section above) and would likely contribute to global emissions reduction. However, purchasing offsets have limited direct benefits to local residents, businesses or the local environments. Offsets availability, financial feasibility, and associated trade-offs are also important implications to consider.

In short, there is currently no clear path on how to achieve carbon neutrality in the community by 2030 through emissions reduction; however, aligning our climate targets with IPCC Special Report's recommendations is a major step towards achieving carbon neutrality by 2050. Staff will continue to explore options on how to accelerate climate work towards carbon neutrality and make recommendations for Council to consider in the future.

ALTERNATIVES

1. That Council approve the recommendation as outlined in the staff report.
2. That Council provide alternate direction to staff.

Alternative direction could include: continuation of the Climate Plan: 100% Renewable and Resilient Saanich development with the original target of 80% GHG reductions by 2050 below 2007 levels; adopting a new target of achieving carbon neutrality by 2030 and delaying the Climate Plan: 100% Renewable and Resilient Saanich delivery in order to consider options to achieve the new target.

FINANCIAL IMPLICATIONS

There are no immediate implications related to the District of Saanich Financial Plan. Additional energy and emissions modeling would be required, however Staff believe this work could be covered in the current departmental budget. If determined otherwise, a separate report outlining any financial shortfall would be presented to Council for review and consideration.

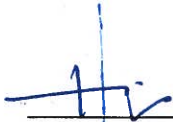
STRATEGIC PLAN IMPLICATIONS

There are no implications related to the District of Saanich 2015 - 2018 Strategic Plan.

CONCLUSION

In response to Council's Climate Emergency Declaration in March 2019, staff believes it is appropriate for Council to endorse new climate targets to be in alignment with the latest Intergovernmental Panel on Climate Change recommendations, specifically:

- a. Achieving 50% reduction of community-wide greenhouse gas (GHG) emissions below 2007 levels by 2030; and
- b. Reaching net zero emissions before 2050 as a complement to the target of becoming a 100% Renewable Energy Community.

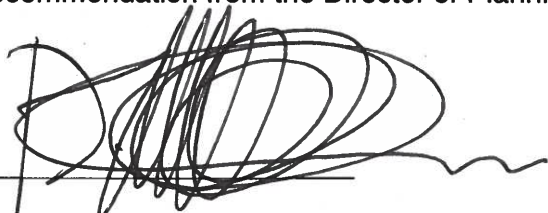
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TP/jsp

ADMINISTRATOR'S COMMENTS:

I endorse the recommendation from the Director of Planning.


Paul Thorkelsson, Administrator