

2020 Climate Action Plan Modeling Engagement – Public Engagement Questions and Answers

Please note that staff and consultants have combined questions with a similar theme to reduce repetition. Some questions have been edited for brevity. The five first questions are comments that were reformatted in the form of questions for continuity.

1. *Why does the modelling exercise not explicitly describing definitive policy options to reduce emissions?*

A: The purpose of the engagement session was to provide an update on the status of the emissions modelling, review the methods and assumptions used in the modelling scenarios and show where the community's emissions are being generated and how the emissions profile may change overtime. The engagement will thus help identify where there are potential areas for other reductions and to start a discussion on how we can achieve our emissions reduction targets. Policy options will then be developed to reinforce those from the original CAEP or to create new actions when/where possible.

2. *Why is there not more action on things that can be influenced by municipal policy like transportation mode, land use, promoting regenerative agriculture, and forestry?*

A: The modelling update includes energy and emissions considerations that are within and outside of the sphere of direct municipal influence as it is the best practice in accounting for energy and emissions inventories. The primary focus of the updated CAEP is on factors under municipal control. However, it is acknowledged that we will not be able to meet our emissions reduction targets without efforts from other levels of government affecting factors in their jurisdictions. For example, based on suggestions from the public, staff are interested in investigating regenerative agriculture to learn how this may help GHG emissions from our agriculture sector. There is also a possibility of managing emissions either through carbon sequestration in preserved forests or more carbon neutral harvesting. There is also a possibility of managing emissions through the Municipal Forest Reserve either through sequestration of preserved forests or more carbon neutral harvesting. The decisions on which of these policies is adopted will be in the purview of Council and dependent on the feedback received through the public engagement process, consultation with First Nations and advice received from the Forest Committee.

3. Why doesn't the CAEP update address preservation, access, maintenance of ground and surface water supplies for our rising population

A: The CAEP update modelling is not meant to address climate adaptation projects like water storage as the CAEP update is scoped as a GHG emissions mitigation exercise.

However, as we advance the discussion and move into developing management policy under the Climate Action Plan, a significant amount of work will be devoted to storage of water in reservoirs to maintain surface water supplies in the summer. There will also be potential applications of stored water to protect fish and fish habitat, recreational opportunities, and water quality in Somenos and Quamichan Lake.

In our current policy, staff implement water restrictions in the warmer summer months for a variety of reasons:

1. Based on Provincial Government direction via the Regions Drought Code.
2. A precautionary measure to limit our potential impact on infrastructure, surface water, and groundwater supplies.
3. Reducing peak demands in the summer months can help to reduce operation, maintenance, and capital costs relating to water delivery, i.e., if the peak water demand goes up significantly, bigger pipes, pumps, and water supplies are required to adequately serve our residents. Reducing peak demands delays the need to complete expensive upgrades on our water systems in the future.

4. The assumptions related to transitioning to Electric or low emissions vehicles are too optimistic.

A: We have assumed an arguably ambitious EV uptake target for the low-carbon scenario modelling. The Provincial target is already ambitious and we wanted to explore what emissions reductions are possible under a slightly more ambitious approach to demonstrate the scope of the challenge and to estimate what efforts may be required to meet our emissions reduction target. The Schedule for uptake of EVs and zero emissions vehicles in the model also reflects targets set by Transport Canada to reflect Canada's emissions reduction obligations. This suggests that senior levels of government are prepared to be part of the effort to develop infrastructure for such a transition.

5. Why isn't there more focus and resources dedicated to getting a better idea of what potential GHG reduction projects are viable here in North Cowichan, how many tonnes of reductions they may be able to contribute, and how the most feasible projects can be supported in a way that helps to transition the local economy to a sustainable/low carbon.

A: The CAEP and its modelling update are focused on actions that are viable in the local context. For example, local wind and hydro power generation have not been considered in the

modelling as there is little opportunity for these approaches, as established in the original CAEP. The actions explored through the modelling update will each have associated emissions reductions (tonnes of carbon dioxide equivalent) and financial estimates incorporated in later phases of the project.

6. *Why has there been a shift from a focus on actions that can be taken municipally to actions that are under provincial or federal jurisdiction?*

A: The intention is that policy or actions coming out of this process are focused on things that the Municipality can actually control or has some ability to influence or change at higher levels of government. In order to meet our emissions reduction targets, however, we also must consider what other levels of government are capable of supporting in North Cowichan.

7. *Where does urban planning and creating compact, walkable communities to reduce carbon emissions and make services more accessible to all peoples fit in?*

A: This is inline with the underlying objectives of the Climate Action Plan and is established in our current OCP. These policies are presently implemented through development decisions (i.e. zoning and subdivision approvals) made in compliance with our OCP, but will be more widely implemented in the coming years through anticipated review of the Zoning and Subdivision Servicing Bylaws. The update to the OCP will further explore this value and how it can be improved. Find out how you can get involved now by visiting www.northcowichan.ca/OCP, or follow the Municipality on social media.

8. *How does improving public transit infrastructure and education fit into the Climate Action and Energy Plan?*

A: This was modelled in the Low Carbon Scenarios and any specific policies will have to be implemented in collaboration with the Cowichan Valley Regional District and BC Transit. Furthermore, the modelling included information on the current transportation of students via School District 79.

9. *What about biking infrastructure? In this plan, how are greener travel and transport alternatives being put forward to reduce our emissions?*

A: Bike infrastructure is a consideration to the active transportation mode shift in the modelling update. In the next phase of the project, discrete actions like building new bike infrastructure will be explored as a means to achieve the bike mode shift explored in the modelling. Exploring alternative transportation options will also be part of the OCP update discussions.

10. *LCS Assumptions: Why does Crofton have 5% growth in new buildings while the others have 30%?*

A: This assumption was based on current patterns of new building permit applications in different areas of North Cowichan and staff anticipation of future trends for these.

11. How does the modelling update justify a drop in transportation emissions in the baseline (business-as-usual scenario)?

A: Several factors are anticipated to contribute to vehicle emissions decline over the next 30 years, including: low emission vehicle uptake, improved fuel efficiency and carbon content standards, and a decrease in overall car ownership.

12. How is 100% electric vehicle sales by 2030 possible?

A: While this may be an optimistic target, the most recent available data for car sales shows that in the later half of 2019, 15% of new cars purchased in BC were electric or low emissions vehicles, and it is very likely that the portion would be even higher on Vancouver Island. Transport Canada has assumed similarly ambitious targets for new car sales in Canada in order to meet our national carbon emissions reduction targets (<https://tc.canada.ca/en/road-transportation/innovative-technologies/zero-emission-vehicles>). The aggressive assumption for uptake of EVs and ZEVs is also based on the developing price parity between internal combustion engine and electric engine vehicles arriving soon, the use of federal and provincial subsidies and incentives, and partnerships with dealerships.

13. Why isn't transportation modal shift in itself a big move?

A: Mode shift assumptions are included in the modelling. Please see the Data Methods and Assumptions Manual for more details.

14. Does this project take into account electric bikes?

A: Not explicitly. Although, they are included in bike mode share considerations.

15. Why is the timeline for 10% approval of single-family homes so long?

A: This is an assumption and could be changed to an earlier year if it is thought to be reasonable.

16. Has North Cowichan made increases in the Step Code mandatory through to 2032, and how can it mandate net zero by 2030?

A: Council gave first, second, and third reading to an amendment to the Building Bylaw that will require all new construction in North Cowichan to comply with Step 2 of the BC Energy Step Code, as of January 1, 2021. In conjunction with this, Council approved a policy to implement a staged rebate program for new builds in North Cowichan that voluntarily comply with Step 2 (or higher) of the BC Energy Step Code. Rebates for voluntarily reaching Step 2 will be offered until compliance with this step is mandatory in 2021. Council allocated \$30,000 from the Climate Action Reserve Fund to provide rebates on a first-come-first-served basis until funds are exhausted. Two information sessions on the new rebate program will be held digitally over the summer, dates will be confirmed and posted on our website soon.

17. North Cowichan has shown leadership through the CAEP tax levy. What % of corporate GHG emissions reduction has there been since its inception? How can this achievement be leveraged to accomplish more?

A: Corporate GHG emissions have been quite stable, despite increases in staffing and infrastructure. We will, therefore, devote significant effort to bringing these numbers down. Staff is currently assessing ways to speed up fleet electrification and installing electrical vehicle infrastructure to support this move.

18. How do CVRD policies influence North Cowichan?

A: North Cowichan staff work closely with the CVRD and there are many synergies in policies with respect to solid waste management, public transit, climate adaptation and mitigation, and most importantly, growth management. However, specific policy adopted by North Cowichan most effectively governs climate action within North Cowichan.

19. Why is there no mention of, or action foreseen, for the Cowichan Estuary, even though the northern half falls within the jurisdiction of North Cowichan?

A: All areas within the Municipal Boundary are considered in the modelling. Specific actions and policies will be identified in later phases of the project.

20. Why not ban any type of clear-cutting of municipal forests?

A: The Municipal Forest Reserve is a carbon sink and is included in the modelling as such. The Operational Forestry Management Review is currently underway by the UBC Partnership Group who will be providing Council potential options for future forest management for their consideration. More information can be found on the MNC website at: www.northcowichan.ca/forestry. The results of this review, in conjunction with public input and a government-to-government consultation with local First Nations, will help Council determine the best future direction of the Municipal Forest Reserve.

21. Why not adopt a strict tree bylaw for North Cowichan which applies to public and private land?

A: At this stage in the project, specific policy options and actions have not yet been outlined yet. This type of policy could be considered in later phases of the project.

22. Why not prevent urban sprawl, concentrating on attractive strata development and multi-family, affordable housing instead?

A: This is assumed in the development assumptions in the modelling. Please see Data Methods and Assumptions Manual for more details.

23. Why not adapt building codes to energy efficient and environmentally friendly structures?

A: The BC Energy Step Code and net zero building efficiencies are considered in the modelling. Please see the Data Methods and Assumptions Manual for more details.

24. Why not provide property tax incentives for retrofitting older buildings and attracting green and sustainable industry?

A: The Clean BC Better Homes program incentivises retrofitting existing housing stock and Council provided funding and directed staff to partner with the provincial government on this program. Please see the Data Methods and Assumptions Manual for more details. Further incentives to encourage energy efficient retrofits may be developed in the future.

25. Why not more emphasis on energy efficient public transport and safer bicycle lanes?

A: Electrified transit is included in the modelling. Protected bike lanes aren't considered in the modelling, but the expanded use of bikes is.

26. The models under discussion fail to provide budgets and well defined time-lines for each proposed action

A: Financial modelling and timing are part of the next phase of the project.

27. Please explain the differences regarding the projected number of new homes in North Cowichan. In the CAEP Update assumptions it states there will be +867 new homes by 2050, whereas in the OCP Gap Analysis it states that the number of homes in North Cowichan will go from 12,800 in 2017 to 16,300 in 2050 an increase of 3,500. In the Strategy and Policy document of the CAEP update, it says that North Cowichan's low density will still apply to 90% of the housing stock in 2050. But, if the 3,500 figure is true, then more than 20% of North Cowichan's 2050 is yet to be built, much of which could be located in a manner to densify (or "thicken") existing neighbourhoods.

A: We will be speaking with the OCP consultants and Sustainability Solutions Group to make sure that we have an agreement between the two projects in their forecasts of likely numbers of new homes and dwelling types. The energy and emissions modelling will be updated if it is found that the currently used housing numbers are inappropriate. Providing amenities closer to existing communities or nodes, i.e., "Thickening Neighborhoods") is desirable in terms of GHG emissions reductions and often comes as a result of densification of existing neighborhoods.

28. Why is carbon capture and storage not emphasized more in the plan? Why is there not a big emphasis on protecting, increasing and improving green space?

A: Given that the preliminary analysis completed by the UBC Partnership Group shows that protecting the ~5,000ha in the MFR has the potential to generate approximately 20,000 tCO_{eq} sequestration per year, (roughly 5-6% of community emissions) it will be tough to find other places to do enough habitat remediation that stores a large amount of carbon. Therefore, with respect to managing individual carbon capture projects, the Municipality needs to be careful that money spent on carbon capture is not being unnecessarily diverted from potentially more efficient uses in lowering emissions or mitigating climate change effects. However, there are other habitat protection and remediation reasons to pursue greening the community as well as benefits from shading local watercourses that will be investigated.

29. Why are electric bikes and electric mobility scooters not included?

A: Electric bikes and scooters are considered in the transportation modelling and goals around modal shift. Developing alternative modes of transportation will be an important way to reduce emissions from transportation if we do not think we can achieve the conversion to 100% Zero emissions vehicles by 2030.

30. Compact housing: Why not more emphasis on existing lots including in-building another house, adding suites, and speeding up the process for coach houses on already existent property?

A: Making communities more walkable and encouraging alternative transportation is a key aspect of reducing our emissions and will also be addressed in the OCP. Converting to these alternative modes of transportation will also be encouraged by denser housing strategies as recommended in the original CAEP, and the OCP. Compact housing includes a range of housing types from small-lot single family subdivision, cluster housing, up to apartments. In recent years North Cowichan has pre-zoned most single-family neighbourhoods to allow for secondary suites, and many also have the ability to develop coach houses. The CVRD is currently undertaking a Housing Needs Assessment that will identify what number and type of housing exists today and what we'll need in the future. This data will be generated at the local level, and we'll be working to incorporate it into our OCP update. Be sure to follow both topics on [Placespeak](#).

31. What is Sustainability Solutions Groups cost to taxpayers?

A: The Climate Action modelling project has a \$100,000 budget, with \$80,000 of the funding coming from The Federation of Canadian Municipalities (FCM). The remaining 20% came from the Municipality's Climate Action Reserve Fund.

32. Why is North Cowichan's annual industrial emissions higher than Victoria's?

A: North Cowichan began as a resource based economy so there is a lot of mining, manufacturing, forestry processing, and associated activities. The comparison is based on data presented in Victoria's climate action plan so it is unknown what assumptions were used to derive the reported emissions by that sector. It may also be that a significant portion of Victoria's industrial emissions occur on federal land, e.g., transport Canada, national defence, coast guard, etc. and are not accounted for in their emissions inventory.

33. Why have the tonnes of carbon sequestration not yet been valued for the Municipal Forest Reserve?

A: This estimate is included in the forecast but, even under the most optimistic assumption, will only account for 5-6% of current emissions. The carbon sequestration potential of the Municipal Forest Reserve is currently being modelled by the UBC Partnership Group and a potential sequestration range is included in the modelling and can be updated later based on the actual harvest /sequestration policy that is adopted. At this point in Technical Review on the Municipal

Forest Reserve, the figures developed by the UBC Partnership are still preliminary and no decisions have been made by Council as to the direction of the Forest reserve. A copy of the UBC Partnership Groups "Carbon Feasibility Assessment" report can be found here:

<https://www.northcowichan.ca/EN/main/community/current-topics/municipal-forest-reserve/carbon-feasibility-assessment.html>

34. Why have housing development plans not included commercial nodes to reduce number of vehicle trips to shopping centres in Duncan for example?

A: The modelling includes estimates of daily number of trips and trip lengths. Expected commercial and retail building floor area per year estimates are also included in the modelling considerations. Like residential development, they are distributed to certain areas of North Cowichan in the spatial modelling.

35. What are "fugitive" Emissions?

A: Fugitive emissions are the volumes of lost product during the distribution of natural gas, which is, itself, a powerful greenhouse gas.

36. In October of 2018, the Intergovernmental Panel on Climate Change update clearly stated that we need to reduce emissions (at all levels of government and industry) by 50% by 2030 and reduce emissions to net zero by 2050 in order for warming to remain at or below 1.5 degrees Celsius and avoid the looming catastrophic impacts of the unfolding climate crisis. Will North Cowichan's Council be looking at the emissions reduction target which, at 80% below baseline by 2050, is very much out of date with the analysis of the current peer reviewed climate science?

A: An important legacy of the CAEP modelling update will be the ability to track emissions more meaningfully as we move forward. We will thus be able to make better assessments of how our emissions policies are succeeding or falling short. This will be crucial in helping with adaptive management of emissions if we, as a community, become more proactive in our desires to pursue emissions reductions. Adopting an emissions reduction target based on 1.5 degree warming would require Council approval.

37. The Climate Action Plan has 6 strategy areas. Why is Land Use not one of those? It has a major influence on emissions, and is TOTALLY under municipal control, unlike agriculture, industry and transportation, for instance.

A: Land Use is integrated into four of the six strategic areas of the Climate Action Plan (items 1, 2, 4, and 5) and a fundamental component of the OCP.

1. Encourage transition to electric vehicles and less carbon intense transportation

- Install charging stations at municipal facilities
- Encourage charging stations in new developments
- Support installation of charging stations in existing neighbourhoods
- Encourage biking and bike paths

- Develop walkable neighbourhoods and amenities
 - Adapt transportation to accommodate eBikes and scooters
 - Work with Ministry of Transportation and Infrastructure to reduce congestion of through traffic
2. Taking corporate leadership in lowering emissions
 - Partnerships with other local government on planning local amenities and transportation
 - Improving energy efficiency in municipal buildings
 - Seek ways to use renewable energy in municipal buildings
 - Promoting low carbon energy production opportunities
 1. Support Ecosystems and promote carbon capture
 - Develop blue carbon storage in salt marshes and eelgrass beds
 - Rebuild Forests
 - Restore Wetlands
 - Preserve streams, ponds, and lakes
 5. Adapting to new Climate norms
 - Seeking opportunities for water storage
 - Preserving and planting trees
 - Planning for changes in sea level
 - Assess and mitigate risks to infrastructure

38. I see the Municipality has an Active Transportation Plan. Great! Does it include pushing for the conversion of the E&N Railway corridor into a trail? This would greatly encourage alternative transportation, and provide better access for Cowichan Tribes, especially.

A: This idea involves a much broader discussion with Cowichan Tribes, the Provincial Government, Cowichan Valley Regional District, City of Duncan and Island Railway Corridor Foundation not to mention all the community organizations that would like to see a rail system re-established. The Active Transportation Plan does identify this as a potential multi-use trail connection in the future.

39. Are there any examples of a municipality in BC regulating small-emitter industrial GHG emissions? Under what legislative authority and how would that be done, practically? Same question with agriculture.

A: Great question! The importance of dealing with small-scale industrial emissions even though the municipality has relatively limited options to regulate energy use in this sector is a challenging issue. We will investigate if there are examples of such work in other communities in BC. However, we also recognize that it may be necessary to introduce incentive programs and work with other levels of government to move the dial on this emissions sector.

40. When will North Cowichan implement GPS for Municipal vehicles to better track use of vehicles and to improve efficiency of vehicle use thus reducing emissions?

A: Although there is some GPS tracking on vehicles in the municipal fleet already, switching fleet vehicles to lower emissions sources of fuel (e.g. Electric Vehicles) or purchasing more fuel efficient vehicles will provide a better opportunity for emissions reductions.

41. Staff presentations referred to Bonsall Creek Watershed Management Plan – What specifically has been done to make improvements? What is being done to clear out the Creeks from gravel, silt build-up?

A: One of the priority recommendations from the plan is to complete a hydrological assessment of the watershed as a first step. This is a component of staff business plans for 2020 and staff are planning to put out a Request for Proposals (RFP) in regards to this effort later in 2020. Management and protection of surface water is an important component of North Cowichan's climate adaptation planning but has a small impact on emissions as modelled.

42. In regards to agricultural emissions due to livestock as an assumption, What about soil / carbon emissions due to use of fertilizers, tilling? Many world experts such as Vandana Shiva are saying that regenerative agriculture practices can sequester the carbon needed to make a huge impact on mitigating the climate crisis.

A: One benefit of this project is updating our modelling to utilize the Global Protocol for Community Scale GHG Emissions. The assumptions used in developing emissions estimates use the same methodology as the Government of BC and Canada in reporting to the UN on our obligations under the Paris Accord, see <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/inventory.html>.

43. What about the promotion of biogas on farms for generating electricity and producing their own fertilizer in the form of liquid digestate?

A: Investigation of Biogas will be undertaken but the potential of this to mitigate emissions in North Cowichan is unknown at present. Addressing fertilizers is going to be a much tougher prospect because the BC Ministry of Agriculture will be bringing in much stricter regulations on nutrient management by farms over the next few years. Export of nutrients is known to be a significant contributor to high phosphorus levels and blue-green algae blooms in both Somenos and Quamichan Lakes. These dynamics will need to be addressed if farmers are to be asked to adopt new fertilizer sources while also converting to new fertilizer management

44. What relationship does a municipality have with BC Hydro in constructing District Energy systems?

A: Exploration of opportunities for District Energy Systems will involve multiple partnerships and could involve some complex agreements with utility providers and/or private enterprises. Depending on the type of system implemented, many factors could change. Future exploration of this topic would need to involve a feasibility assessment by a specialized consultant.

45. Do you have a framework for reaching out to let other Local Government (LG) bodies know you have data to share and where are the opportunities with other LGs; i.e.. Island Trust; Conservancies & NGOs

A: Not currently, but the engagement session on July 27, 2020 is a start to this process and this will be explored further in later phases of the project.

46. Are you exploring funding opportunities for research around local indicators and other related tools specific to North Cowichan?

A: This will be explored further in later phases of the project. Reliable and more frequently updated sources of data (e.g. Stats Canada) were used to generate the assumptions in the model so that proper comparisons can be done when monitoring progress in the future.

47. Are you working with Penelakut FN, Lyackson FN, Halalt FN at all?

A: North Cowichan's land is located in the traditional territory of 7 local First Nations. Those Nations were invited to participate as rights holders in the July 27th engagement session and will be provided an opportunity to engage further in the future, if there is a desire to do so.

48. Climate Change and shoreline erosion...are there shifts in strengthening the building along the shorelines of Chemainus, Crofton, and Maple Bay.

A: The Cowichan Valley Regional District has conducted GIS based modelling to forecast these changes in our area. North Cowichan will need to consider shoreline effects as part of our climate adaptation planning, however, this has a limited impact on emissions modelling.

49. Where do you stand on natural asset inventories? Has North Cowichan started to include them in financial statements?

A: Natural Asset Management is listed as one of council's priorities in their Strategic Plan and will be investigated by Environment Staff in 2021.

50. How do you plan on incorporating policy that will preserve natural assets? I.e. Wetland preservation or restoration.

A: Staff are currently inventorying and mapping our vegetated stormwater management infrastructure. Staff have also created partnerships with Cowichan Estuary Nature Center and Somenos Marsh Wildlife Society and done several ecosystem rehabilitation projects in riparian areas as well as creating the Constructed Wetland on Beverly St. As mentioned above, further work on formalizing natural asset management will occur in future years and will be part of our climate adaptation policies.

51. Rain Water Harvesting / Grey recycling - will this be part of North Cowichan's future?

A: The CAEP update modelling is not meant to address climate adaptation projects like water storage or water supply as it was originally scoped as a GHG emissions mitigation exercise (which is the purpose of the FCM Funding provided). However, Council may consider and direct staff to look into this in the future.

52. In regards to home heating, how will you mandate the need for adequately insulating new homes to scale?

A: The CAEP modelling update explores increases to home energy efficiency for new and existing buildings. The development of associated policies are part of the next project steps.

53. The new BC Energy Step Code was outdate before it was implemented, how do you see home retrofitting to meet the needed energy reductions by 2050?

A: The BC Energy Step Code is one of Canada's most aggressive iterative new building energy efficiency frameworks. With it, the construction industry is accelerating changes in their practices to create lower emissions buildings. The low carbon scenario in the modelling update assumes that all new homes built in 2030 onward are net zero emissions (not just net zero ready). By combining this framework with the CleanBC programs for retrofitting existing housing stock, North Cowichan is using all available resources within the provincial governance framework to reduce emissions from this sector.

54. How are you accounting for the COVID-19 factor? The future where we cannot use public transit and single person/vehicle?

A: The modelling assumptions do not currently account for potential long term COVID-19 effects as their uncertainty at this time is too great to practically consider.

55. How will you prevent farm fields, forests and, greenspace from becoming photovoltaic farms?

A: This is a policy creation and application consideration. Photovoltaic solar siting policies will include restrictions on their deployment.

56. How will BC Hydro adapt to these assumptions?

A: The electricity grid is an important supplier of energy to North Cowichan. With all policies and actions concerning local electricity generation and electricity procurement, BC Hydro will be consulted. BC Hydro is aware that water storage and power supply conditions will change in the future and is actively planning to address this.

57. How will grid consumption decrease when there is a huge assumed increase in EV's, which need to be charge, and greatly increased hydrogen use, which needs lots of electricity to produce it?

A: Despite increased electricity demand in some sectors (like EVs), grid consumption is mostly estimated to decline due to increase electricity use efficiencies in building heating as systems are converted from resistor coil (e.g. baseboard) systems to heat pumps systems which are typically more than 300% efficient by comparison. From an emissions perspective, the vast majority of energy in BC's is generated by Hydro electricity and therefore near carbon neutral. This means that jurisdictions in BC can leverage the use of Electric Vehicles to reduce emissions more than those that rely on other forms of fossil fuel based energy generation. The relatively mild winters common to Vancouver Island only enhance this potential for increased electric vehicle adoption. Staff and consultants feel that that electric bikes, scooters, walking and other alternative transportation are more likely to be part of the future transportation network than hydrogen based modes.

58. Does carbon sequestration in Municipal Forests assume plantations will NOT be cut down in 50-60 years?

A: The carbon sequestration model used by UBC and 3GreenTree to calculate different scenarios of carbon sequestration in the Municipal Forest Reserve compares a baseline Historical Average Annual Cut, i.e., average volume of wood harvested, to different scenarios involving reduced amounts of harvesting (50% harvest, No harvesting, etc.) that could occur in the future. At this point in the Technical Forest Management Review, the figures used are still preliminary. Because no management decisions have been made by Council a conservative range was used in the Greenhouse Gas Modelling which can be amended in the future. A copy of the UBC Partnership Groups "Carbon Feasibility Assessment" report can be found here:
<https://www.northcowichan.ca/EN/main/community/current-topics/municipal-forest-reserve/carbon-feasibility-assessment.html>

59. How does potential carbon capture in the Municipal Forest Reserve only provide a 6% contribution to the model? How did the choice not to develop in Chemainus (Echo Heights) have such a HUGE effect in 2016 for a decision not to develop 20 acres, while the MFR at ~12,500 acres has so little effect on the overall model?

A: The large apparent offset referred to from not developing Echo Heights was applied to the municipality's corporate emissions (usually around 1400 t CO₂eq/y), which are less than 1% of the community's emissions (~340,000 CO₂eq/y). If the offset from Echo Heights was applied to community emissions it would have not been noticeable in our emissions estimates. Therefore, while the municipal forest reserve is much larger than Echo heights, it likely will only offset about 5% of community's emissions (assuming the no harvest model which forecasts about

20,000 CO₂eq/y being sequestered). Therefore, one year of max sequestration from the municipal forest reserve would offset about 15 years of North Cowichan corporate emissions. A copy of the UBC Partnership Groups "Carbon Feasibility Assessment" report can be found here: <https://www.northcowichan.ca/EN/main/community/current-topics/municipal-forest-reserve/carbon-feasibility-assessment.html>

60. 3GreenTree are suggesting that selling Carbon Credits on the MFR might yield the same amount of revenue that logging does now. What would it look like if we sold some or all of these carbon credits to ourselves? This way we might eliminate or at least reduce the complicated/expensive need for accounting/accreditation to quantify/qualify the project's Credit's required before sale to an external buyer.

A: Specific actions and policy options regarding the Municipal forest reserve should be explored in that process. The potential application of carbon credits from policies that evolve from those discussions, therefore are dependent on the choices made to managing the cut in the MFR. However, accreditation would be a one time cost and so, over the life of a sequestration program not, a significant obstacle to administration of the project. Third party verification of potential carbon credits is required in any scenario and the decision on how to utilize any credits or revenue from selling credits lies with Mayor and Council. A copy of the UBC Partnership Groups "Carbon Feasibility Assessment" report can be found here: <https://www.northcowichan.ca/EN/main/community/current-topics/municipal-forest-reserve/carbon-feasibility-assessment.html>

61. To log or not to log; how can emissions in the model remain the same for each? Logging uses contractor vehicles, trucks, skidders and equipment, burns slash piles, etc.... and the sequestered CO₂ is immediately lost. Or is it?

A: For specifics on this separate modelling project please consult the UBC Partnership Groups "Carbon Feasibility Assessment" report can be found here: <https://www.northcowichan.ca/EN/main/community/current-topics/municipal-forest-reserve/carbon-feasibility-assessment.html>

62. Will you have incentives for residents to help achieve goals (electric cars, home retrofits, etc.)? With an increasing senior population, is this being accounted for (home retrofits, etc)? How will these become policy?

A: Provincial and Municipal government incentives for making new and existing homes more energy efficient already in place for the residents of North Cowichan. North Cowichan has partnered with the provincial government to offer rebates to home owners on upgrading heating systems from fossil fuel based to electric heat pumps. There are also rebates available for improving home energy efficiency. North Cowichan will also be offering rebates to

developers to encourage rapid uptake of efficiency standards under the BC Step code. With regards to electric vehicle adoption, provincial and federal incentives for vehicles and charging infrastructure are currently being offered as well. Staff foresee more opportunities for municipal partnerships with higher levels of government in these areas in the future. The next steps of the project are to explore potential climate action policy and actions that leverage these opportunities.

63. *Monitoring will be an important part for achieving goals, but costs money, so will North Cowichan budget accordingly, starting immediate budgeting? What plans for monitoring progress are in place?*

A: Part of the scope of this project is to develop a program for monitoring and tracking emissions over time. The intention is that Municipal staff will be able to monitor progress regularly through normal work.

64. *Has NC considered partnering with other local governments including Cowichan Tribes to create solar energy farms and energy storage grids, etc.?*

A: Community energy programs such as a solar farm project are still quite capital intensive. It is likely that as technology improves and affordable electrical energy storage becomes available a community solar project will be more feasible. North Cowichan Staff are exploring ideas like solar and other district-level energy projects as a way to reduce emissions.