



CLEAN ENERGY FOR THE SAFE HARBOUR

**District of Ucluelet
100% Renewable Energy Plan
2019**



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EXECUTIVE SUMMARY

Ucluelet's 100% Renewable Energy Plan carves a path towards a low carbon future: A future where Ucluelet residents experience the benefits of a connected, healthy, and economically prosperous community, while taking action on climate change and adapting to climate impacts.

The District of Ucluelet is committed to an 80% reduction in greenhouse gas (GHG) emissions and a shift to 100% renewable energy by 2050.

The Ucluelet 100% Renewable Energy Plan focuses on leveraging municipal powers to help residents, businesses, and visitors save energy, emissions and money. The Plan lays out actions for buildings, transportation, waste and municipal operations. Actions fall into four categories:



» **Infrastructure:** Investments into the District's own infrastructure, such as district-owned buildings, transportation networks, and public charging stations



» **Policy:** Changes to District policy and regulation that lead to energy and emissions reductions in the community, such as requirements and incentives for enhanced energy efficiency in new buildings



» **Engagement:** Outreach and education that inspires residents and businesses to make choices to reduce energy and emissions and prepares the private sector for a low carbon future



» **Collaboration:** Proactive communication and collaboration with Provincial ministries, utilities, and neighbouring jurisdictions to move forward on actions that support Ucluelet's climate action goals

Municipal Commitment

The District of Ucluelet, like most communities across British Columbia, is responding to climate change. Ucluelet signed on to the BC Climate Action Charter, committing to working towards carbon neutral operations, measuring community emissions, and creating a complete, compact community. Provincial legislation requires that each local government establish targets, plans, and strategies to do their part to mitigate climate change.

The purpose of this plan is to outline a practical plan for Ucluelet to use its municipal powers to help residents and businesses save energy and, by doing so, save money and reduce greenhouse gas emissions.

Ucluelet's Official Community Plan has 24 Policies that directly relate to climate action and saving energy, emissions, and money in the community. This 100% Renewable Energy Plan will guide implementation of OCP policies.

Provincial Actions

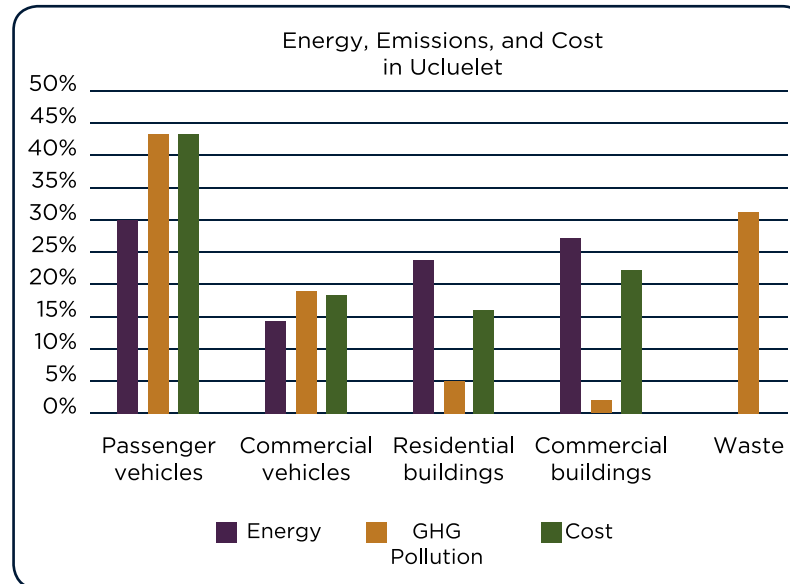
Province of BC has taken many actions to help British Columbians take action on climate change. Many of these actions have local government implications as well. The 2018 [CleanBC plan](#) outlines bold actions to reduce emissions in buildings, transportation, waste, and industry.



Current Situation

Most of Ucluelet’s 14,000 tonnes of emissions comes from transportation. This is partly because most buildings in the community are heated with electricity, which in BC is almost carbon free. Waste is the next largest category of emissions, caused by food and yard waste decomposing in landfill.

Residents and businesses in Ucluelet spend \$8.5 million annually on energy, mostly on gasoline and diesel for transportation as can be seen in the chart at the side. This equates to approximately \$5,000 for each resident of Ucluelet. Reducing the energy used in buildings and vehicles can save residents and businesses money, while also reducing emissions.



Targets

This plan outlines approaches to get to the targets set in the OCP.

The main target is:



80% GHG Reduction and 100% Renewable by 2050.



this translates to:
a 4.2% annual decrease in emissions for every resident of Ucluelet.

Approach to Climate Action




The District of Ucluelet recognizes that decisions made by residents and businesses will have the biggest impact towards meeting the emissions reductions targets. The approach reflected in this plan clearly lays out the role of the District with respect to investments in supportive infrastructure, as well as policy and regulation that enables broader energy and emissions reduction. The greatest impact will come from outreach, engagement, and incentives that empower residents, visitors and businesses to save energy, emissions and money in their homes, businesses, and transportation choices.

Climate Action Principles

- » The District of Ucluelet is committed to working with residents, businesses and other collaborators to be a sustainable community including adopting science-based emissions targets
- » The District of Ucluelet supports a sustainable community through infrastructure, policy, and engagement, and leading by example.
- » Ucluelet Residents, businesses, and visitors support a sustainable community through their choices in buildings and heating, transportation, and waste
- » While becoming environmentally sustainable, Ucluelet will also become healthier, more connected, and equitable
- » Ucluelet is on a 30-year journey with steps every year to move toward 100% renewable energy and zero-waste.
- » Every year, we will have more efficient buildings running on less and less heating oil and propane, greener transportation options, and less food and yard waste going to the landfill

Goals of Ucluelet's 100% Renewable Energy Plan

This Plan outlines 10 climate action goals across 4 sector categories:
Transportation, Buildings, Waste, and Municipal Operations.

TRANSPORTATION 	More Connected and Convenient	Goal 1 - Ucluelet attracts businesses so residents can access key services close to home	Pages 11-28
	Transportation Choices	Goal 2 - Ucluelet residents can safely move around town by foot, bike, scooter, or other low-carbon transportation modes	
		Goal 3 - Ucluelet is connected to the region by reliable transit and an extended EV charging network	
Support Transition to Electric Vehicles	Goal 4 - Ucluelet residents and visitors can charge electric vehicles at home, work, and popular destinations		
BUILDINGS 	Better Buildings	Goal 5 - All new buildings are energy efficient, durable, comfortable and affordable to operate due to complying with the BC Energy Step Code	Pages 30-35
	Renewable Heat	Goal 6 - Existing residential and commercial buildings become energy efficient, comfortable, durable, and cheaper to operate through whole-building energy retrofits	
WASTE 	Divert Organics	Goal 7 - Ucluelet transitions away from heating oil and propane by 2030 in favour of renewable sources of heat such as heat pumps	Pages 36-39
		Goal 8 - Organic waste is diverted from the landfill due to a curbside collection program and on-site composting	
LEADERSHIP 	Goal 9 - Single-use plastics are eliminated in favour of reusable and biodegradable alternatives	Goal 10 - The District integrates climate action into all municipal processes	Pages 40-43
	Think Long-term		
	Lead by Example		
		Goal 12 - The District meets the community's 80% GHG reduction and 100% renewable energy targets for its municipal operations.	

2030 Targets: How We Get There

To reach the target will take ongoing commitment over the next 30 years. The biggest changes will be in how we move. More cycling, walking, scooters, electric golf carts, and transit will help. The biggest shift will be to electric vehicles over time as existing vehicles are replaced. This will reduce emissions (BC electricity is low carbon) and save 90% of the fuel cost since internal combustion engines are only about 20% efficient and gasoline is twice as expensive as electricity for the same amount of energy.

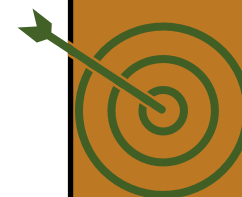
How we heat our homes will change as well. New buildings will be much more efficient (80% more efficient by 2030) and we will eliminate heating oil first, then propane as a heating source.

We will stop wasting our food scraps and yard trimmings. Instead of being buried in a landfill, they will be collected for compost.

The timeline at the side depicts some of the changes we can expect with this plan. The plan will take 30 years to achieve. The district has an important role to play in setting up the infrastructure required for the change like sidewalks, charging stations, and multi use paths. It also has a role with establishing policy, regulation and incentives to drive the change.

Citizens and businesses of Ucluelet have the biggest role.

The change depends on their individual choices about how to get around, where to live, and how to handle food and yard material. To engage citizens and businesses, the plan will necessarily depend on ongoing, sustained engagement to help residents sort through what their choices are and how those choices impact the direction of the community and the world.

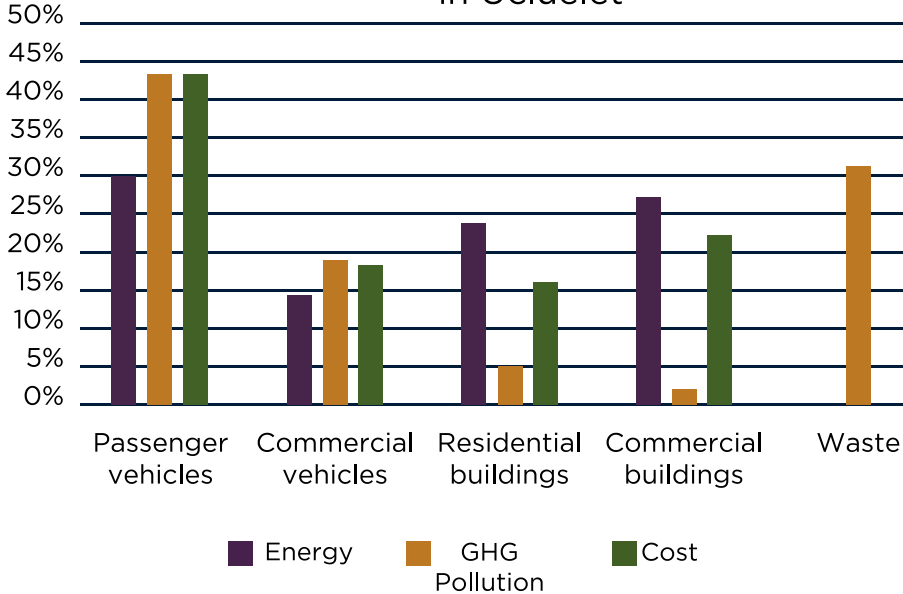


2019	0% per-capita GHG reduction	Targets and actions committed to and budgeted Ongoing community engagement starts Infrastructure starting to be deployed Policies developed to shape future growth
2022	10% per-capita GHG reduction	EV's 5% of new car sales (6), EV's 1% of all passenger vehicles (16) Yard and garden waste is used to create compost New multi-use paths and sidewalks increase walking and cycling Transit service begins All new buildings 20% more efficient than 2018 code
2025	31% per-capita GHG reduction	Heating oil eliminated EV's 10% of new car sales (9) and 3% of all vehicles (42)
2027	38% per-capita GHG reduction	All new buildings 40% more efficient than 2018 code
2030	48% per-capita GHG reduction	All new buildings 80% more efficient than 2018 code EV's 30% of new car sales (36) and 11% of all passenger vehicles (153)
2040	70% per-capita GHG reduction	100% of new passenger vehicles sold in BC are zero emissions / electric EV's 100% of new car sales (152) and 54% of all passenger vehicles (1,014)
2050	100% renewable energy, 80% emissions reduction	Propane eliminated 100% of passenger fleet is electric or hydrogen from electrolysis 100% of buildings are heated with electricity 90%+ of yard and garden waste is composted 100% of commercial vehicles are electric, hydrogen, or biodiesel Fishing fleet converted to 100% renewable fuel

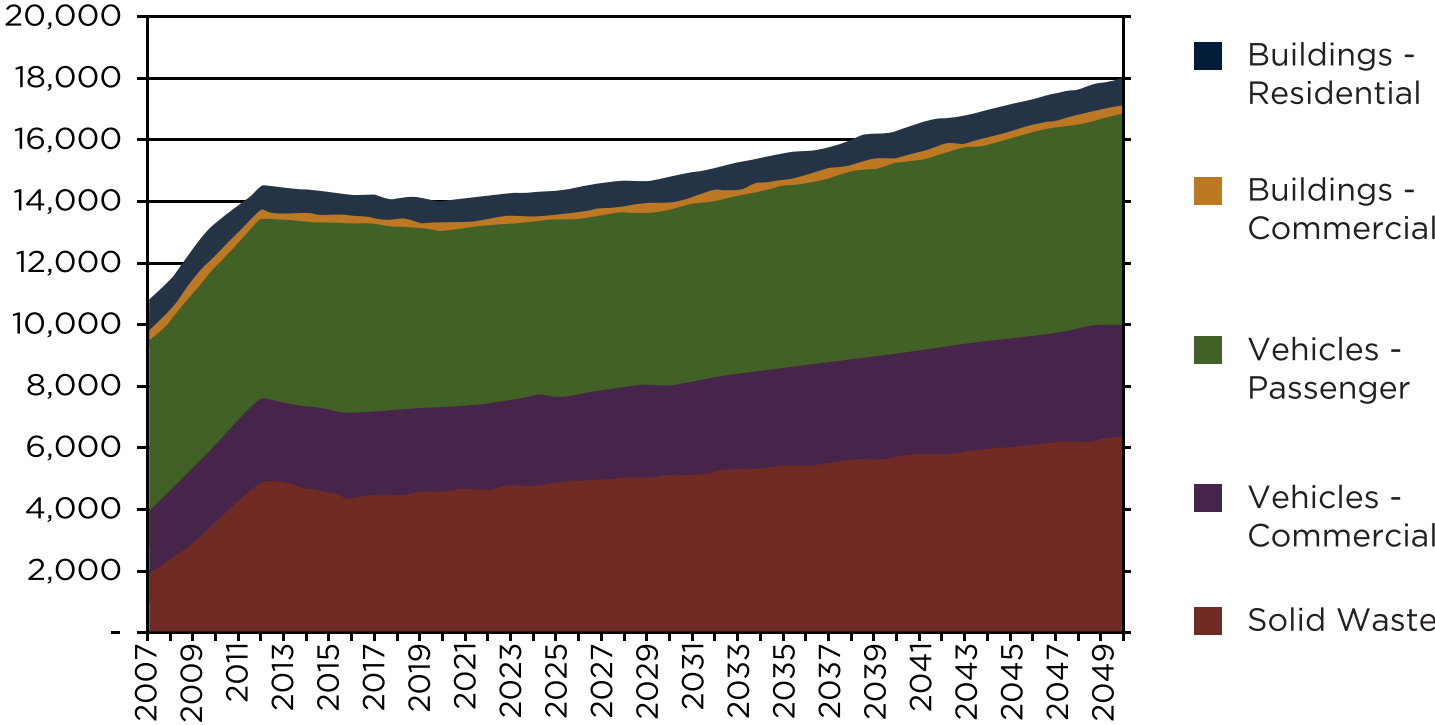
Forecast Emissions

Community-wide greenhouse gas emissions in Ucluelet have been estimated from energy and emissions data provided by the Province of BC and forecast assuming it will be proportional to population growth and accounting for committed senior government policies. This is shown in the chart below.

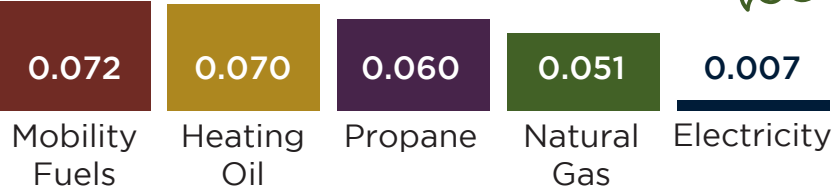
Energy, Emissions, and Cost in Ucluelet



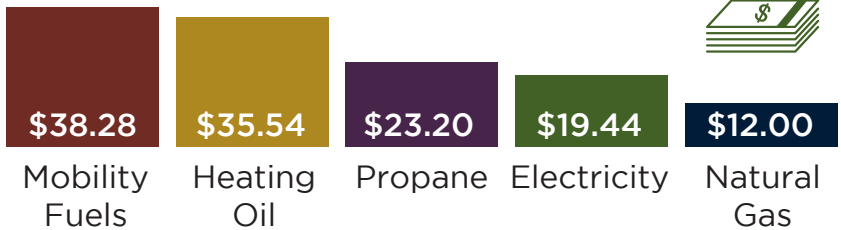
Forecast Emissions by Sector: Tonnes per Year



Greenhouse Gases per gigajoule



Cost per gigajoule



Targets

The District will work with other governmental and non-governmental partners to promote the following *per capita reductions* in GHG emissions (from the 2007 baseline) within the region and District of Ucluelet:



40% GHG reduction by 2030



60% GHG reduction by 2040



**80% GHG reduction with
100% renewable energy by 2050**



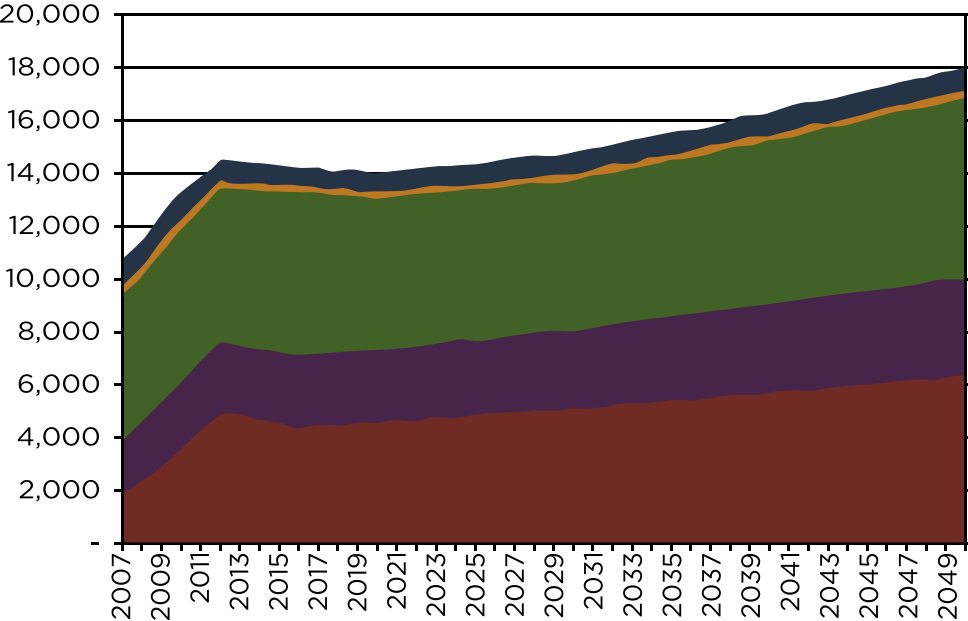
**Every person and business reducing 4.2%
every year from 2019 to 2050 on average**

**Same as every year 72 more people
eliminating 100% of their emissions**

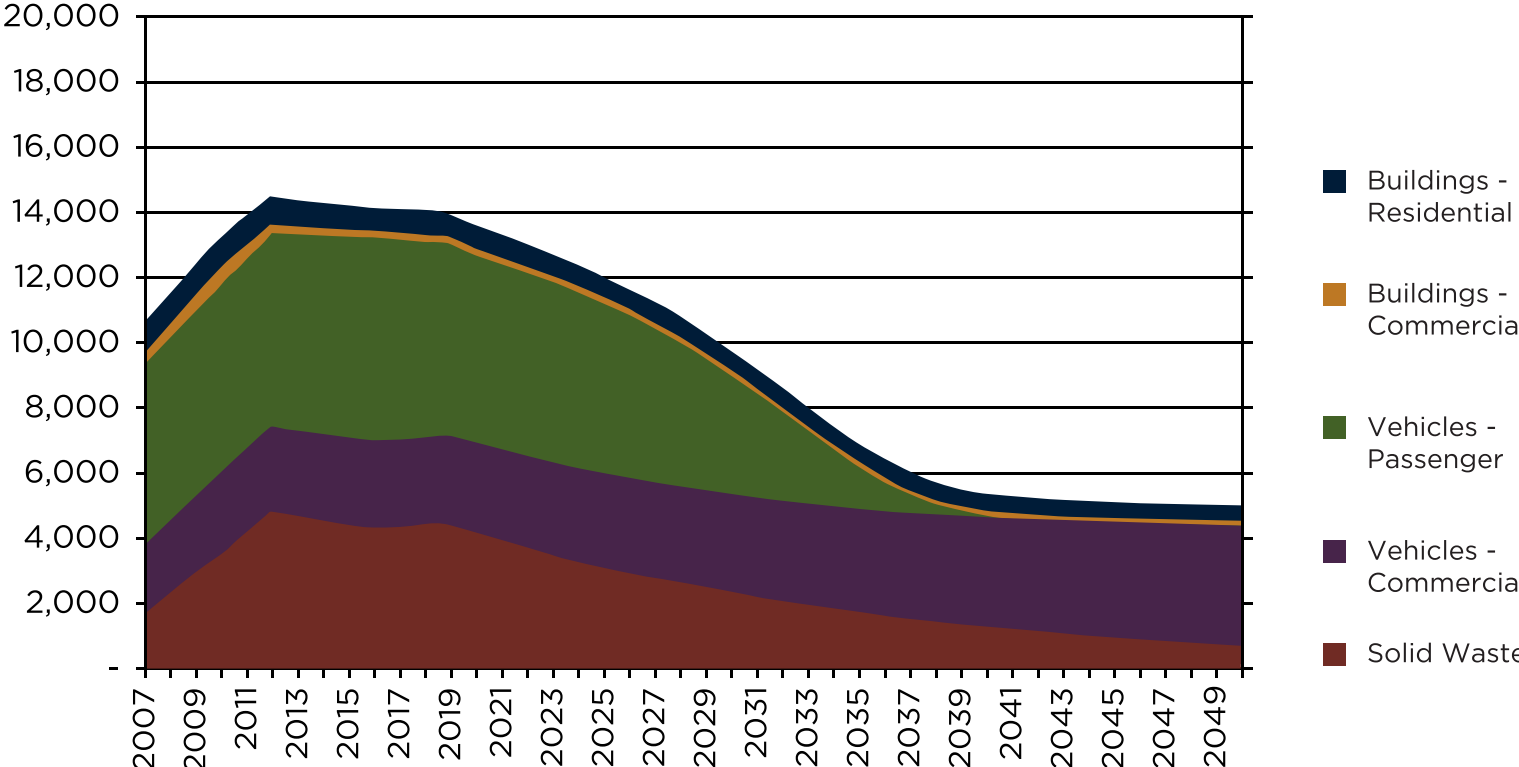
Impacts of Climate Action Plan

By undertaking the actions in this plan, the District can affect future community energy and emissions. The following charts show the projected emissions reductions that can result from actions in this plan, compared to forecasted emissions in a scenario of “business as usual”.

Forecast Emissions by Sector, Tonnes per Year (Business as Usual Scenario)



Planned Emissions by Sector, Tonnes per Year (Impacts of Ucluelet’s 100% Renewable Energy Plan)



UCLUELET'S 100% RENEWABLE ENERGY PLAN





Vehicles are responsible for 60% of the greenhouse gas pollution generated from Ucluelet residents and businesses, not including visitors. Transportation fuels such as gasoline and diesel are the largest expenditure on energy in the community, followed closely by electricity. At almost \$5 million per year, saving a percentage of transportation costs can add up to economic development opportunities.

Current Situation

Ucluelet residents and businesses depend on fossil fuel vehicles as their primary mode of transportation currently. The second most common way to make trips is by walking which accounts for approximately 20% of trips. This is likely seasonal with a higher proportion in the summer and lower proportion in winter. Ucluelet's current geographic footprint of approximately 4 linear kilometers lends itself to walking and cycling transportation choices if the right infrastructure is in place. Almost all passenger vehicles in Ucluelet are fossil-fuel powered. There are less than five electric vehicles currently registered in Ucluelet, including a Leaf and the District's two Might-E trucks. The District is demonstrating leadership through the adoption of EV's in its fleet.

Business as Usual Considerations

Population growth for the purposes of modeling is assumed to be the historical average of approximately 1.08%. The planned new development could significantly accelerate population growth. This would affect transportation emissions increasing the number of vehicles as the population increases and as distances within the District increase.

There is low Electric Vehicle (EV) penetration in Ucluelet currently. The recently announced provincial 'Zero Emissions Vehicle Mandate' is not included in the 'business as usual' forecast because it has not been enacted yet and it is provincial level mandate with no assurance that the same proportion of EV's will be sold locally. The Official Community Plan (OCP) has excellent detailed policies for active transportation and public transit, which will further increase walking and cycling.



Goals

Goal 1 – Ucluelet attracts businesses so residents can access key services close to home

Goal 2 – Ucluelet residents can safely move around town by foot, bike, scooter, or other low-carbon transportation modes

Goal 5 – Ucluelet is connected to the region by reliable transit and an extended EV charging network

Goal 4 – Ucluelet residents and visitors can charge electric vehicles at home, work, and popular destinations





Saving energy, emissions, and money on transportation will require simultaneous change in all four transportation characteristics in the graphic below.



Photo: Tourism Ucluelet

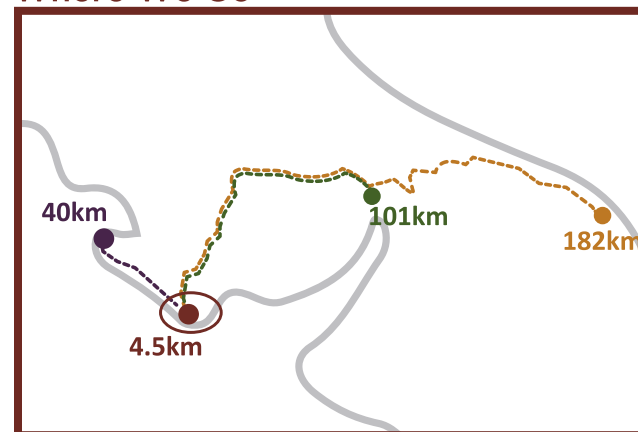


WHERE WE GO - TRIP DISTANCE REDUCTION

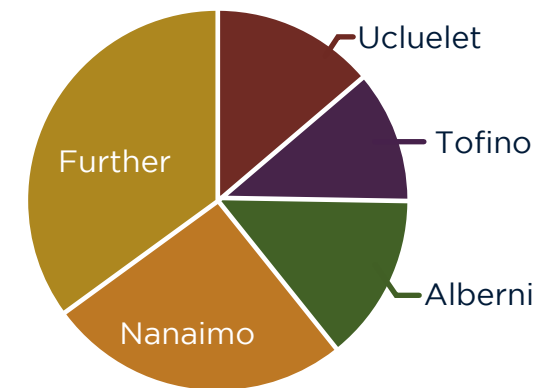
Trips are made around town and out of town. Currently Ucluelet is approximately 4.5km end to end. The closest municipalities out of town are Tofino and Port Alberni. Distances are shown at the side. There are different strategies for influencing trips around town versus trips out of town.

A survey of participants at the CEEP Open House in October 2018 shows that only 11% of vehicle kilometers traveled are within Ucluelet. While there is a far greater number of trips around Ucluelet, they are of a much shorter distance. This was a small sample size and may not fully reflect the community-wide average. It does demonstrate that out of community travel is most likely a larger portion of vehicle kilometers traveled than in-community transportation.

Where We Go



Monthly Vehicle KM Traveled by Destination



? HOW

Reducing trip distance within the community involves decisions about growth and density. Reducing trip distance for trips outside the community involves attracting businesses and services to Ucluelet that reduce the number of trips out of community that residents and businesses have to make.

\$ COSTS

Infill development can utilize the existing municipal infrastructure (roads, multi-use paths, sewers, etc.) and **save the district money** compared to greenfield development. Attracting businesses and services to Ucluelet that people currently travel out of the community for can align with economic development goals. Ucluelet’s OCP includes plans for greenfield development and expansion. These development areas can be well connected to the town centre and include some services and amenities to encourage active and assisted transportation (see “How we go”).

OFFICIAL COMMUNITY PLAN

Policies 2.14 and 2.15 support infill development in the core and centralization of governments services there



STRATEGY

The official community plan has supportive policies for reducing trip distance through infill development in the core. This is an important part of reducing in-community trip distance, particularly given the central location of the core.

The planned new development at the north end of town has the potential to increase the linear length of the community by 50% or more and has the potential to attract growth that would otherwise occur in already developed and serviced areas of the community. The increase in the developed area of the community and the potential to distribute future growth to lower density areas will work against trip distance reduction. Minimizing the footprint of the new development through higher density on each lot with fewer lots can potentially avoid deforestation and shorten the walk time to transit or active travel infrastructure. The sequestration of carbon in trees could possibly be counted against the municipality’s corporate inventory as part of meeting Ucluelet’s commitment to being carbon neutral in its operations.

Attracting businesses and services to Ucluelet can be a significant part of reducing the number of trips residents have to make out of town. The most common examples cited at the CEEP Open House in October where a dentist and sports facilities.



ACTION PLAN - Where We Go

1

ENGAGE

ACTION

TIMING

EFFORT/ IMPACT



Survey

2019

**medium/
none**

NEXT STEPS

Design a short survey on travel patterns including number of trips by destination per month on average and reason for out of town travel. Engagement team distributes survey, collects results, and compiles results in a manner that can be analyzed. Review consolidated survey results to update the inter-community vs intra-community travel split and refine emissions reduction projections. Review consolidated survey results to identify businesses, services, or facilities that could significantly reduce out of community travel needs.

2

ENGAGE

ACTION

TIMING

EFFORT/ IMPACT



**Business Attraction
& Retention**

**2020 -
2022**

**medium/
TBD**

NEXT STEPS

As part of local economic development strategy, target business types that residents are currently traveling out of town to get to.

3

POLICY

ACTION

TIMING

EFFORT/ IMPACT



**Recognize carbon value
of avoided deforestation**

**2020 -
2022**

**medium/
TBD**

NEXT STEPS

Contact Province of BC, Ministry of Environment, Climate Action Secretariat to obtain information on rules for counting avoided deforestation and calculation tools. Include in Climate Action Revenue Incentive Program grant reporting if applicable.

4

ENGAGE	ACTION	TIMING	EFFORT/ IMPACT
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Visitor Length of Stay	2020	medium / low
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NEXT STEPS

Work with Tourism Ucluelet on campaigns to attract visitors who stay longer or get existing visitors to stay longer in order to reduce emissions from traveling to and from Ucluelet.

5

ENGAGE	ACTION	TIMING	EFFORT/ IMPACT
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Visitor Offsets	2020	low / medium
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NEXT STEPS

Find a high quality offset provider of choice for Ucluelet and promote this option through local accommodators.



IMPACT - Where We Go

The impact of actions in this section has not been modeled as it depends materially on the results of the recommended survey and future decisions on which business / services to attract and retain within the community.

Driving growth to the community core through infill and densification would help reduce in-community kilometers traveled by having more people live closer to the places around town they need to go to regularly. A general rule of thumb for the impact of densification on transportation is that doubling density in a complete, compact way can reduce vehicle kilometers traveled by 25%. The calculation below is based on assumptions which likely over-estimate the impact of densification of the core on travel emissions in Ucluelet:

- » % of community in 'core': 20%
- » % of travel within community: 15%
- » % of total annual growth directed to the 'core': 100%

If future growth is directed to the core for approximately 18 years, the density of the core will double. The core would then be 40% of the population, and a reduction of 25% of the in-community kilometers traveled (15% of total kilometers) could be achieved (40%X25%X25%) yielding a 2% reduction in total passenger-vehicle emissions. Ucluelet's OCP includes a vision to expand development, so the likely emissions reductions from trip distance reduction will be lower. In this case, greater emissions reductions would result from focusing on active and assisted transportation infrastructure, transit, and support for electric vehicles.



HOW WE GO - MODAL SHIFT

Individuals have choices about how they move around. This plan identifies how the municipality can support people making a choice to shift how the move from single occupant passenger vehicles to walking, cycling, transit, and ride sharing. Currently over 70% of trips are taken by car while walking and cycling account for just over 20% of trips combined. The trips completed by walking and cycling are generally within the community which, as noted in the previous section accounts for the majority of the number of trips while only representing 15% of total kilometers traveled due to the less frequent but longer distance of out-of-town trips.

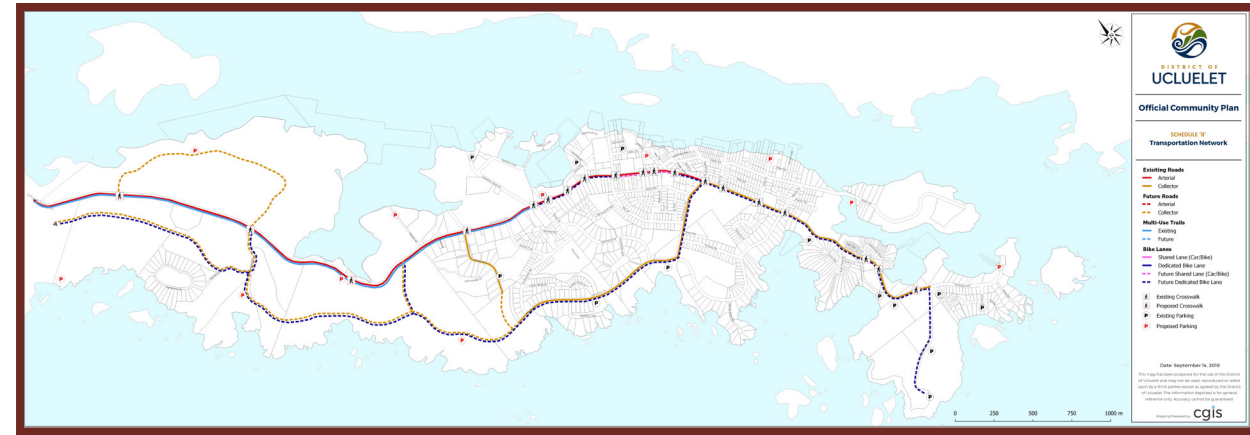
? HOW

To create a significant shift out of single occupant vehicles, infrastructure is required such as multi-use paths, sidewalks, and a transit system. In addition, ongoing community engagement and promotion are required to establish social norms that reinforce choices to use active transportation and transit.

The draft OCP details plans for sidewalks and multi-use paths. These are capital-intensive multi-year investments that are planned and budgeted separately from this plan.

BC Transit is studying the possibility of a transit service looping both Ucluelet and Tofino. This service could shift some in-community trips from cars to transit and could have an even greater impact for trips between Ucluelet and Tofino. Ucluelet to Tofino travel accounts for approximately the same amount of vehicle emissions as travel within Ucluelet.

Outreach can include ‘walking school bus’ programs, walk to work commuting challenges, or competitions among residents to make sustainable transportation choices.



STRATEGY

The primary strategy for building out the infrastructure is ongoing, multi-year construction, combined with updating subdivision servicing bylaws, and collaborating with Ministry of Transportation and Infrastructure and BC Transit to assist with infrastructure development and cost sharing. Simultaneously, an ongoing campaign to encourage people to choose to use active transportation and transit should be run. The infrastructure is detailed in the Official Community Plan which has **18 policies** related to this topic.



OFFICIAL COMMUNITY PLAN

The OCP has many detailed policies related to shifting how we move including policies 2.12, 2.16, 2.17, 2.20, 2.21, 2.23, 2.25, 2.26, 2.22, 2.27, 2.60, 2.63, 2.69, 2.72, 2.86, 2.87, 2.88, and 2.89 as well as the map above.



COSTS

Multi-use paths and sidewalks are significant multi-year capital investments. Collaborating with Ministry of Transportation to complete sidewalks or multi-use paths as Peninsula Road is upgraded will be an important strategy to reduce District costs. As noted above this infrastructure is budgeted separately from this plan.



ACTION PLAN - How We Go

1	COLLABORATION	ACTION	TIMING	EFFORT / IMPACT
		MOTI collaboration on Peninsula	2019	medium / medium

NEXT STEPS

Continue engagement with Ministry of Transportation and Infrastructure to ensure sidewalks and paths identified in the OCP are completed as Peninsula Road is refurbished.

2	POLICY	ACTION	TIMING	EFFORT / IMPACT
		Update Subdivision Servicing Bylaws	2020 - 2022	medium / high

NEXT STEPS

Review current best practices for active transportation infrastructure in SDS bylaws. Adapt these practices to reflect the unique nature of Ucluelet. Include in broader update to SDS bylaws.

3	INFRASTRUCTURE	ACTION	TIMING	EFFORT / IMPACT
		Infrastructure build-out	Ongoing	medium / medium

NEXT STEPS

Complete build-out of sidewalks and paths as planned and budgeted

4	COLLABORATION	ACTION	TIMING	EFFORT / IMPACT
		Collaborate with BC Transit	Ongoing	medium / medium


NEXT STEPS

Continue to work with BC Transit to secure a transit service providing regular service to Ucluelet and Tofino.

5	ENGAGE	ACTION	TIMING	EFFORT / IMPACT
		Engagement / Promotion	Ongoing	medium / medium

NEXT STEPS

See engagement section of this document (Page 23)

6	INFRASTRUCTURE	ACTION	TIMING	EFFORT / IMPACT
		Shuttle Bus	2020	low / medium

NEXT STEPS

Purchase a shuttle bus using RMI funds and operate from Ucluelet to Pacific Rim National Park Long Beach Unit



IMPACT - How We Go

These actions could lead to a reduction of 6% of emissions from personal transportation over time. Building out active transportation infrastructure in the community will impact in-community emissions (15% of total personal transportation emissions). An extensive network backed by an ongoing engagement campaign could see a doubling of the percentage of trips completed by walking or cycling (shifting a further 20% of in-community transportation) yielding a 3% reduction in personal transportation emissions. Shift percentages are estimates based on survey results at the CEEP open house.

Similarly, a well-planned frequent bus service around Ucluelet and to Tofino backed by ongoing promotion and engagement could shift 20% of trips to Tofino to bus also yielding a 3% reduction in personal transportation emissions.



Size and efficiency of vehicles and driving significantly affect the amount of energy and emissions produced.

? HOW

Municipalities have three tools to affect the size and efficiency of vehicles in their communities. First is anti-idling bylaws to promote efficient driving. Second is establishing a 'truck share' so that residents can access large vehicles when needed without having to own one so that they do not have to use an oversized vehicle for all transportation tasks. The third is by reducing speed limits to enable golf carts and other low speed (typically electric) vehicles to use community roads legally and comfortably.

\$ COSTS

Costs for these actions are relatively low. Anti-idling and speed limit adjustments costs are related to staff time to implement these measures as well as signage. A truck share will vary in cost depending on the approach taken such as providing an incentive for a non-profit or company to start up a truck share or donating a municipal vehicle or operating a truck share through the municipality itself.

⚙️ STRATEGY

Actions in this section are not directly referenced in the OCP, however recent interest has emerged from the Chamber of Commerce in enabling golf carts on community streets.





ACTION PLAN - Size & Efficiency

1

POLICY

ACTION

TIMING

EFFORT / IMPACT



Adopt anti-idling bylaw

2020

**low /
low**

NEXT STEPS

Adapt an existing anti-idling bylaw to Ucluelet, Adopt the bylaw, post signs and direct the engagement team to engage the community in providing feedback to drivers who disregard the bylaw.

2

POLICY

ACTION

TIMING

EFFORT / IMPACT



Reduce speed limit in community

2022

**low /
low**

NEXT STEPS

Review BC examples of communities lowering speed limits to enable low speed electric vehicles and adapt existing bylaws for Ucluelet. Direct engagement team to work with hospitality sector and Chamber of Commerce to raise awareness.

3

ENGAGE

ACTION

TIMING

EFFORT / IMPACT



Plan truck-share

2020

**low /
low**

NEXT STEPS

Commission a study to develop a business case for a truck share and evaluate options for structuring it as well as challenges / barriers. Based on study results develop a plan to initiate a truck share.



IMPACT - How We Go

These actions could lead to a reduction of 6% of emissions from personal transportation over time. Building out active transportation infrastructure in the community will impact in-community emissions (15% of total personal transportation emissions). An extensive network backed by an ongoing engagement campaign could see a doubling of the percentage of trips completed by walking or cycling (shifting a further 20% of in-community transportation) yielding a 3% reduction in personal transportation emissions. Shift percentages are estimates based on survey results at the CEEP open house.

Similarly, a well-planned frequent bus service around Ucluelet and to Tofino backed by ongoing promotion and engagement could shift 20% of trips to Tofino to bus also yielding a 3% reduction in personal transportation emissions.



ELECTRIC VEHICLES

Modern electric vehicles were launched in 2011. Previously, custom-built low speed electric vehicles such as the District’s Might-E Trucks have existed as well as retrofitted vehicles. The Province of BC has stated its intention to implement a requirement for all vehicle manufacturers who sell vehicles in BC to sell a minimum percentage of electric vehicles. This percentage starts at 10% in 2025 and escalates to 100% by 2040. This mandate is at the manufacturer and provincial level. These percentages will not translate into a particular community without both infrastructure and engagement.

Electric vehicles save approximately 90% of fuel cost due to electric drive being much more efficient than internal combustion and electricity costing half as much as gasoline per unit of energy. Internal combustion engines are typically 20% efficient, meaning for every \$100 of gas you put in the tank, \$80 goes to creating waste heat around the engine and 20% goes to moving the vehicle forward.

Electric vehicles also have low maintenance costs due to no oil changes, simple transmissions with 1 gear, and regenerative braking.

Local governments play a key role in EV adoption through deploying charging infrastructure, requirements for new buildings and facilities to be EV-ready, and outreach.

Other communities in south-eastern BC, northern BC, and Alberta have found significant value in regional collaboration for EV infrastructure, outreach, policy and integration of EV’s into tourism branding to drive economic development.

The plan below outlines how Ucluelet could do its part to get its fair share of EV’s and reduce personal transportation emissions by 94% by 2050.

OFFICIAL COMMUNITY PLAN

Policies 2.13, 2.18, 2.24, 2.65 support electric vehicles



STRATEGY

The Official Community Plan has 4 policies related directly or indirectly to electric vehicles. The shift to EV’s is the single largest emissions reduction opportunity in the plan over time and it is highly dependent on active support from the District. This includes public charging stations, policy for EV ready new building, encouraging innovative uses of EV’s, extensive outreach, regional collaboration and engagement with senior government.



COSTS

The main cost area for EV’s is deployment of ‘Level 2’ public chargers to enable residents and visitors to charge while in the community. A ‘level 2’ charger is small device with some intelligence that enables a vehicle to charge up from a 220V 40A electrical circuit (about the same as a clothes dryer). These chargers average approximately \$10,000 including equipment and installation costs.

Other costs include community and dealer engagement on an ongoing basis.



ACTION PLAN - Electric Vehicles

1

INFRASTRUCTURE

ACTION

TIMING

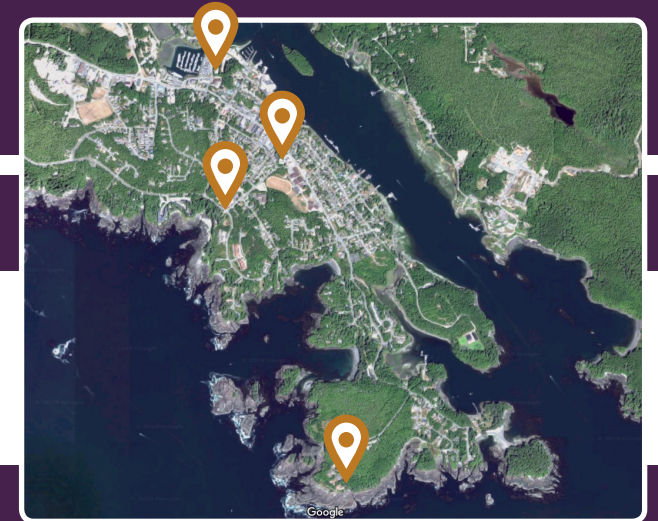
EFFORT / IMPACT



8 initial public chargers

2019

medium / medium



NEXT STEPS

Four 'level 2' (220v/40a) charging stations, each with two plugs at strategic locations in the community. One station at each of the locations on the map except the new parking hub which would have 2 stations (4 plugs). Currently the only chargers are the fast charger at the junction and the level 2 at Black Rock. These charging stations will provide a place for visitors to charge up while experiencing the community. The chargers serve two purposes - to attract visitors and to remind residents that EV's are a choice they can make.

Budget estimate is \$12,000 for each of the stations installed (\$60,000 total) plus a small annual network fee. **Include full amount in 2019 budget to be safe.**

The Province of BC is likely to come out with grants for public level 2 chargers in 2019.

Immediate work should begin to confirm locations, specific siting of the stations, electrical capacity of the associated buildings and an estimate for both electrical and civil work to install the stations (they can be wall mounted which is less expensive or pedestal mounted). Consider painting the parking stall for EV charging to act as a further visual cue for non-EV drivers to avoid parking in the spot reserved for charging. When choosing specific sites, consider distance to the electrical panel (drives cost), safety, convenience for parking, and "selfie-friendly" backgrounds so that people when charging can post to social media in a positive way. In addition to stations, **signage** should be installed for all stations directing EV drivers from Peninsula road to the charging station. Contact Fraser Basin Council for current provincial standards for signage. These signs also serve as a reminder about electric vehicles for residents.

Electricity use for the station is minimal. A time-based fee for charging may help drive the desired behavior of using the charger when needed then moving on so others can use it. Determine procurement approach for chargers (Province of BC has negotiated a corporate supply agreement (CSA) for level 2 chargers (<https://www2.gov.bc.ca/gov/content/governments/services-for-government/bc-bid-resources/goods-and-services-catalogue/ev-charging-stations?keyword=ev&keyword=charging>) which Ucluelet could use or it could issue a Request for Proposals to a short list of EV charging providers.

Once estimates are completed, keep in touch with the Province of BC and Fraser Basin Council on timing of grants. Schedule installation and media-friendly launch / promotion of the stations. Ensure stations are showing up on EV driver applications.



ACTION PLAN - Electric Vehicles

2

ENGAGE

ACTION

TIMING

EFFORT / IMPACT



Highway 4 Regional Collaboration & Launch Event & dealer engagement

Q1 2019 and ongoing

medium / medium

NEXT STEPS

EV's have a regional element including highway charging infrastructure, public outreach, dealer engagement, integration into regional branding and tourism, and through joint procurement access to larger grants, lower costs on infrastructure, and economies of scale with outreach.

The electrification of the Ministry of Transportation 'Level 3' fast charger at the Taylor River Rest Area provides an excellent opportunity for initial collaboration and awareness raising through a 'Highway 4' e-opening, possibly in March 2019 to coincide with the Pacific Rim Whale Festival and Art Splash. A media-friendly rally of EV's could be organized from Parksville through Coombs and Port Alberni, to Long Beach and Tofino then ending in Ucluelet with filming at key stops to compile into a EV tourism video for the region. Ideally, car dealers from Port Alberni or Nanaimo provide test drives in a high visibility event that also allows the District to profile its Might-E trucks as well as the fast charger on Ucluelet land at the junction.

This requires:

- » Commitment from Ucluelet and engagement with the other communities along highway 4 as well as with Province of BC Ministry of Energy and Mines for possible co-funding of regional outreach activities and Ministry of Transportation and Infrastructure.
- » Detailed workplan and budget (est. \$25,000 spread across multiple communities for event and coordination and securing grants which could offset part or all of the \$25,000)
- » Branding / story discussions with the communities and finalization of a brand and story
- » Selection and engagement of someone to film key parts and to edit into a short (2-5 minute video)
- » Event planning including timing, stops, key focus in each community
- » Engagement with current EV owners in the region to recruit them to participate in the event
- » Engagement with new and used vehicle dealers to participate in test drives
- » Event facilitation and media / social media promotion
- » Post event editing
- » Development of vision and specific targets / goals for ongoing regional collaboration (increasing DCFC on Highway 4 for redundancy, regional community engagement, policy alignment, Level 2 joint procurements and access to provincial funding as it becomes available)



ACTION PLAN - Electric Vehicles

3

POLICY

ACTION

TIMING

EFFORT / IMPACT



Update building bylaw requirements to include 100% of new buildings to have 100% of parking spaces with electrified circuits for EV charging

2019 - 2020

low / high

NEXT STEPS

Province of BC has issued direction that BC Building Code does not address EV charging and so local governments are free to enact requirements for EV charging in new buildings. There are many examples of policies requiring EV charging in Part-9 buildings (homes, duplexes) and Part-3 buildings (condo's, commercial). The current best practice is to require energized outlets for 100% of parking stalls (with power sharing to reduce electrical infrastructure costs) for new condo's and energized outlets for every new home in a place appropriate for an EV plug. This significantly reduces the cost of rewiring a home when an EV is used. <https://pluginbc.ca/policy/> is a good reference for these policies. A further consideration is an 'EV Ready' sticker for homes that have appropriate circuits in the right places.

- » Review policy best practices
- » Adapt to Ucluelet while considering the potential for Ucluelet and Tofino to align policies
- » Engage building community to increase awareness and buy-in including around approaches to compliance and costs
- » Adopt Building Bylaw update



ACTION PLAN - Electric Vehicles

4 ENGAGE ACTION TIMING EFFORT / IMPACT



Ongoing engagement with BC Hydro and Ministry of Transportation

2019 and ongoing

low / medium

NEXT STEPS

Engage BC Hydro and Ministry of Transportation (possibly through regional collaboration above) to encourage further charging infrastructure deployment along Highway 4 to facilitate travel to/from Ucluelet for visitors and for residents.

5 POLICY ACTION TIMING EFFORT / IMPACT



Consider public EV charging and community amenity

2020

low / high

NEXT STEPS

For new developments, evaluate the potential to include public EV charging as an amenity contribution.





ACTION PLAN - Electric Vehicles

6

ENGAGE

ACTION

TIMING

EFFORT / IMPACT



Ongoing engagement

2019 and ongoing

medium / high

NEXT STEPS

To achieve uptake of EV's locally, ongoing engagement will be required. Some examples include:

- » Public education on initial cost of used EV's and operational costs (particularly for people who travel a lot over relatively short distances)
- » Assessment of interest in a joint procurement of EV's to drive the price down further
- » Engage the local automobile repair shops to get training on EV's
- » Conduct public awareness and test drives at community events
- » Identify opportunities to include used EV's in low-income / worker housing to provide a safe and reliable form of low-cost transportation
- » Engage hospitality industry on EV charging provisioning as well as electric bicycles for their guests and/or electric golf cart transportation and on electrifying shuttles

7

ENGAGE

ACTION

TIMING

EFFORT / IMPACT



Work with local hospitality sector to transition to EV fleets

2019

medium / high

NEXT STEPS

Engage tourism sector to purchase electric commercial fleet vehicles and lower-speed electric shuttles



IMPACT - Electric Vehicles

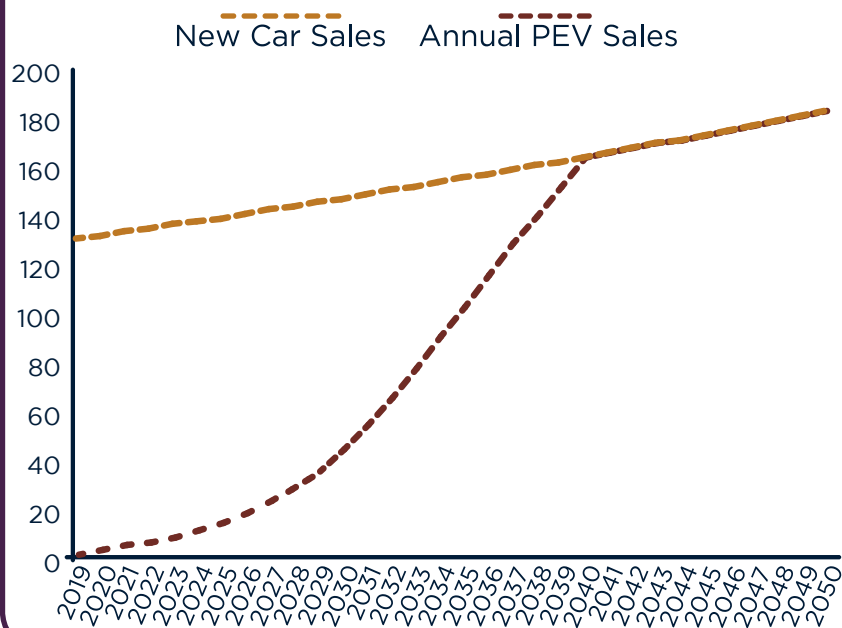
Electric vehicle infrastructure and sustained engagement could reduce personal transportation emissions by **94% by 2050**.

The impacts of these actions are outlined in the charts below with projections on EV sales within the community, the proportion of all vehicles that are electric and the percentage of personal transportation emissions saved.

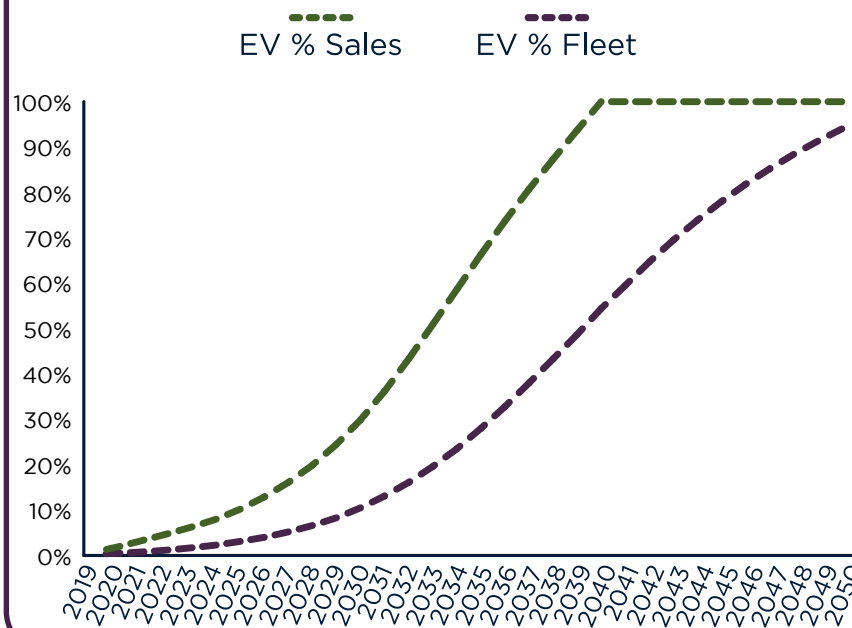
The financial savings are also significant with cumulative fuel savings, not including savings on repairs and maintenance totaling \$1.7 million in 2030 and rising to over \$17 million by 2040.



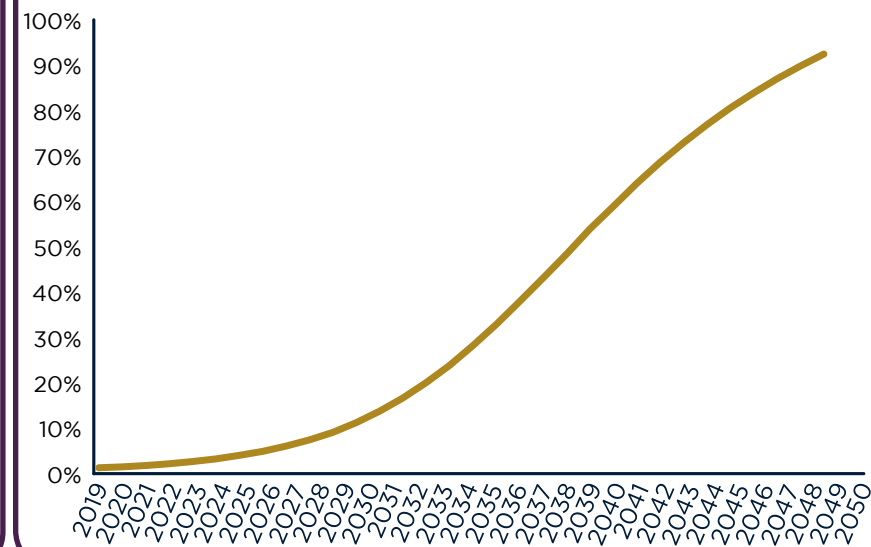
Ucluelet EV Sales Projections



Electric Shift of Vehicles in Ucluelet



Ucluelet Personal Transportation GHG Reduction



Electrification

Medium and heavy-duty commercial vehicles account for approximately 30% of transportation emissions in Ucluelet. While electric light-duty vehicles are already available and charging infrastructure is underway, decarbonizing larger commercial vehicles is more difficult. Electric vehicle charging standards for medium and heavy-duty vehicles is currently evolving, and manufacturing is expected to begin on the first heavy-duty EVs. Currently there are limited options for fully electric commercial vehicles, such as school and transit buses and some medium-duty vehicle applications.

The District of Ucluelet can monitor the readiness of electric vehicle technology for the commercial sector and engage with local industry, such as fisheries and trucking to prepare them for an eventual shift towards electrification. The District

will play an important role collaborating with the Ministry of Transportation and Infrastructure and BC Hydro to ensure future high-voltage charging capability along Hwy 4 corridor

Compressed Natural Gas (CNG)

While Ucluelet does not have natural gas supply, there may be an opportunity for a compressed natural gas (CNG) fueling station in Port Alberni that could be utilized by CNG trucks coming in and out of Ucluelet. CNG vehicles and fueling stations are generally available for medium and heavy-duty vehicles today in urban and some rural areas. Port Alberni, given its placement along Hwy 4 and home base for several medium and heavy-duty fleets, could possibly support a CNG fueling station. CNG vehicle operators can become carbon neutral through the purchase of renewable natural gas (RNG) credits.



ACTION PLAN - Decarbonizing Commercial Vehicles

1

ENGAGE

ACTION

TIMING

EFFORT / IMPACT



Work with trucking to transition to low carbon fuels

2022

high / medium

NEXT STEPS

Engage local fishing industry and fish truck operators about shifting to lower carbon transportation. Explore options for language in transportation contracting. Conduct regular reviews of low carbon options (every 5 years) with fish plant and/or trucking company.

Available Technology for Low-Carbon Trucking

Technology	Costs	GHG Reduction (%/yr. vs. Diesel)	Status as of 2018
LNG	Capital: \$295k (\$50 - 80k above diesel) Lifetime: Equal to diesel in 2015, \$150k savings by 2020	30	Long-haul CNG/LNG trucks now available, 4 in BC, with FortisBC being able to build stations anywhere as needed.
CNG	Capital conversion cost: \$75k, \$53k paid by FortisBC, \$22k by customer Lifetime: 0.5 - 2 year payback, \$60k - 200k lifetime savings	20 - 40	Conversion kits up to 775 DLE now available, 15 refueling stations in BC, and limited stations between Edmonton to Calgary, and 401 corridor from Windsor to Montreal. Also long-haul CNG/LNG trucks now available.
RNG	Additional fuel cost of >\$0.27/L above CNG fuel, however \$0.30-0.40/DLE available back as carbon credits	100	Five RNG facilities in BC available now. RNG well suited for HDVs

Source: Decarbonizing the Commercial Transportation Sector (CEA, 2019)

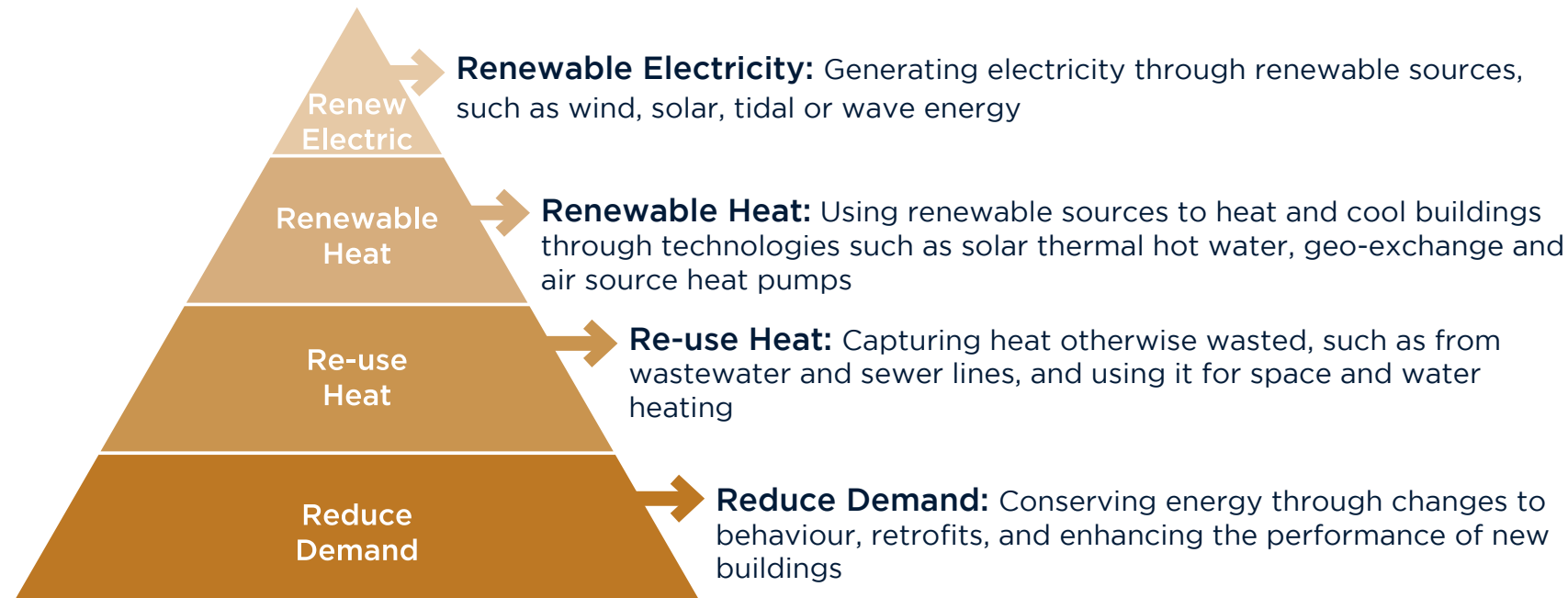


Buildings make up a small portion of Ucluelet’s greenhouse gas emissions (7%) because the primary fuel source for heating is electricity. However, half of the energy consumed and about 40% of the community’s energy budget (\$3.5 million) is spent on heating and powering homes and businesses.

Reducing energy consumption in buildings will help residents and businesses save money, but it also leads to a host of other benefits, including more comfortable and healthy spaces to live and work. High performance, energy efficient buildings are also more durable and resilient in the face of extreme weather events, which are becoming more frequent due to climate change.

The focus for saving energy, emissions and costs in the building segment is on reducing demand.

Energy efficiency measures in both existing and new residential and commercial buildings are usually the best initial investment for recuperating value and realizing the other benefits stated above. Most actions in this plan fall under this broad strategy, which is the bottom of the triangle below. With efficiency maximized, there are opportunities to recover heat and invest in renewable energy at both the single building and community scale.



Goals

Goal 5 - All new buildings are energy efficient, durable, comfortable and affordable to operate due to complying with the **BC Energy Step Code**

Goal 6 - Existing residential and commercial buildings become energy efficient, comfortable, durable, and cheaper to operate through **whole-building energy retrofits**

Goal 7 - Ucluelet transitions away from heating oil by 2030 in favour of **renewable sources of heat** such as heat pumps

? HOW

Energy demand can be reduced in existing residential and commercial buildings through a range of strategies that include changes to behaviour or operating conditions, technology and equipment upgrades, up to deep whole-building energy retrofits. It is up to building owners and residents to determine what level of investment makes sense, but the District can help provide information and offer top-up incentives to further improve the business-case for energy savings.

Where the municipality has more direct impact on building energy efficiency is the buildings not yet built. The BC Building Code is changing to require increased energy performance in the future, following the structure of the BC Energy Step Code, which is available now. The local building industry can get ahead of the curve with the help of the District: through implementing the Energy Step Code with incentives, stepped up regulation and focused training opportunities.

⚙️ STRATEGY

The official community plan supports high-efficiency buildings in new developments and major renovations of existing buildings. When considering adoption of the Energy Step Code, the District could step up the base energy performance of new major developments, such as the planned new development past Forbes road.

\$ COSTS

The District can provide valuable information to residents and businesses at very little cost. With increased investment, there are opportunities to strategically encourage specific energy retrofits through topping up EfficiencyBC incentives. The administrative costs of incentive top-ups is borne by the Provincial program instead of by the District.

The cost of adopting the Energy Step Code depends on whether the District implements an incentive program, such as a building permit rebate or subsidized mid-construction air tightness testing. Once the Step Code is adopted into the building bylaw, there are no significant costs to the District, however builders and developers will experience moderate incremental costs, which can be offset through incentives and training opportunities.

OFFICIAL COMMUNITY PLAN

Policies 2.34 and 2.22 support reducing energy demand at civic facilities

Policy 2.28 supports incorporating high-efficiency buildings in new developments and major renovations, and targets implementing the Energy Step Code by 2020



ACTION PLAN - Reduce Demand

1

ENGAGE

ACTION

TIMING

EFFORT / IMPACT



Promote efficiency at time of permit and other means

2019

low / low

NEXT STEPS

- » Distribute EfficiencyBC materials at the front counter and at community events (CEA can provide)
- » Explore opportunities for additional community outreach, including social media and local news
- » Promote wood stove exchange program through regional district when available (Fall 2019?)
- » Adapt and distribute sustainability checklist for renovation and new home permits (CEA can provide)

2

POLICY / ENGAGE

ACTION

TIMING

EFFORT / IMPACT



Establish a retrofit program with incentive top ups and outreach

2019

medium / medium

NEXT STEPS

- » Determine funding opportunities for incentive top-ups
- » Conduct an outreach campaign with engagement contractor and/or summer student. Target building envelope upgrades (insulation and air sealing/weatherization) and heat pump (see next section)
- » Set a bold target for overall energy reduction (including electricity), such as “Reduce electricity for home heating by 10% by 2030 and 50% by 2050)





ACTION PLAN - Reduce Demand

3 ENGAGE



Action: Initiate Step Code consultation

Timing: 2019

Effort / Impact: low / low

NEXT STEPS

- » Submit notification to consult with builders to the Energy Step Code Council (January)
- » Communicate Step Code implementation strategy and seek feedback (February)
- » Provide follow-up to training offered in December 2018 based on builder feedback
- » Engage with developers of large buildings (Part 3)
- » Engage with local Realtor(s)



IMPACT - Reduce Demand

Because buildings in Ucluelet are primarily heated by electricity, the GHG reduction impacts are low for this sector. However, the energy spend for buildings will be reduced due to improved efficiency. Residents and businesses will experience the benefit of reduced operating cost and increased comfort.

4 POLICY



Action: Adopt the Energy Step Code through incentives and regulation*

Timing: 2019 - 2023

Effort / Impact: low / low

**CEA has funding to provide implementation support*

NEXT STEPS

2019

- » Roll-out and communicate incentive program for Energy Advisor/ mid-construction air tightness testing (April/May) - Funding: BC Hydro Step Code Implementation Offer
- » Require Step 2/3 for master developments

2020 - 2022

- » Require Step 1 community-wide (January 2020)
- » Require energy labeling (EnerGuide label) as an administrative requirement (January 2020)
- » Launch Building Permit Rebate Program (Part 9 buildings) for Steps 2-5 (January 2020)
- » Require Step 3 community-wide (January 2021) (Step 3 will become the base building code in 2022)
- » Require Step 4 community-wide (January 2023) (Part 9 buildings)

? HOW

There are multiple technologies available for harvesting waste heat, heat from renewable sources or renewable electricity. The biggest opportunities are in new buildings, where the District can encourage heat recovery ventilators and air source heat pumps. The Energy Step Code requires that builders work with Energy Advisors, who will act as a valuable resource for determining cost-effective energy solutions, including renewable energy opportunities.

For existing buildings, the District can encourage fuel switching from fossil fuel sources such as heating oil and propane, to sources of renewable heat, specifically air source heat pumps. A range of options is available, from information online, to robust outreach campaigns and incentive top-ups.

The District can take a leadership role with its own facilities, by evaluating opportunities to capture waste heat and generate renewable energy through technologies such as heat recovery, solar energy, and biomass boilers.



OFFICIAL COMMUNITY PLAN

Policy 2.22 supports demonstrating leadership in new public facilities

Policies 2.36, 2.37 and 2.38 support the development of renewable energy systems and district energy



COSTS

Programs for fuel-switching will be tied to broader energy efficiency campaigns. As with energy efficiency, there are opportunities to encourage specific energy retrofits, such as replacing heating oil with air source heat pumps, through topping up [EfficiencyBC](#) incentives. The administrative costs of incentive top-ups is borne by the Provincial program instead of by the District.



STRATEGY

The official community plan supports the development of 100% renewable energy systems including a variety of energy sources (biomass, solar photovoltaic, solar hot water, geothermal and sewer and waste water heat recovery sources). There is strong community interest to explore the potential for a wave energy demonstration project.



ACTION PLAN - Waste Heat and Renewable Energy

1 POLICY ACTION TIMING EFFORT / IMPACT



Top-up incentives for fuel-switching and retrofits

2019

**medium/
medium**

NEXT STEPS

Incenting fuel switching from oil or propane to electricity will:

- » Determine funding opportunities for incentive top-ups, specifically oil to heat pumps
- » Conduct an outreach campaign with summer student that would include a detailed heating oil and propane inventory
- » Set a bold target for oil to heat pump fuel switching, such as “Eliminate propane for heating and heating oil in buildings by 2022”

2 ENGAGE ACTION TIMING EFFORT / IMPACT



Heat pump engagement campaign

NEXT STEPS

- » Determine training needs and sponsor training opportunities for heating contractors to improve local capacity
- » Explore coordinating a bulk-purchase/installation to reduce costs for residents
- » Engage with heating oil and propane distributors to advise them of the District’s targets and outreach plans

3 COLLABORATION ACTION TIMING EFFORT / IMPACT



Explore wave energy demonstration project

2020

**medium/
medium**

NEXT STEPS

As a community with a strong coastal identity and surf-loving residents, a wave energy demonstration project could generate interest and community pride. Local residents have approached the District to explore this opportunity in the past, but it has not moved forward. With new funding announced from the Province and improvements to the technology, there is now an opportunity to revisit this innovative idea.

- » Determine potential industry partners and explore project feasibility
- » Funding: [CleanBC Communities Fund](#) (application deadline is March 27, 2019)



IMPACT - Waste Heat and Renewable Energy

The most significant emissions reduction potential from buildings is switching heating oil to low carbon heating sources, such as air-source heat pumps.



Waste accounts for 30% of Ucluelet’s greenhouse gas emissions, so it is the most significant category for emissions reductions after transportation.

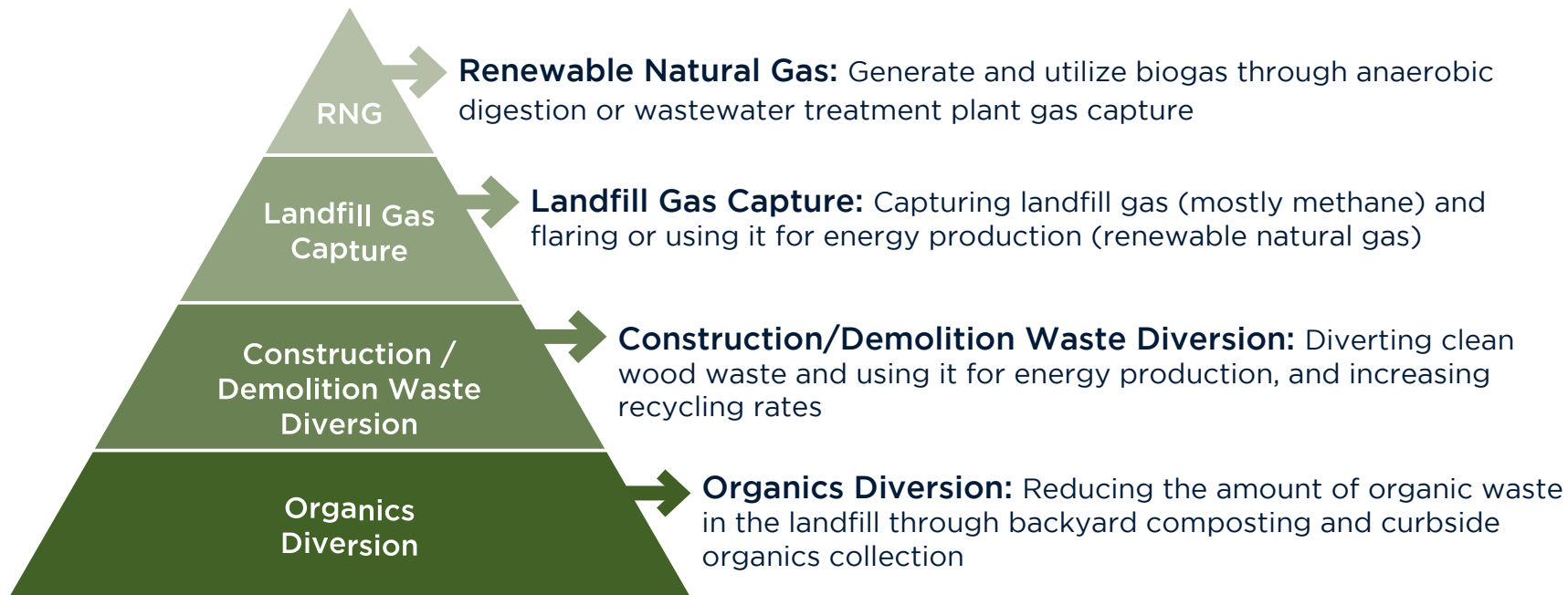
Emissions from waste occur when organic waste mixed in with garbage decomposes in the landfill and produces methane, a potent greenhouse gas that is released into the atmosphere. Organic waste makes up about 35-40% of landfilled waste, and includes food waste from homes and businesses, yard and garden waste, wood waste, and paper that cannot be recycled, such as food-soiled paper. Organic material decomposes over approximately 10 years in local landfills. Organics diversion reduces or eliminates the new waste added every year but the

waste that is already in place at the landfill continues its decomposition process. Because of this, it takes a number of years for the emissions reductions from organics diversion to scale up. Of course, how much waste is diverted (the diversion rate) is key to emissions savings.

Currently Ucluelet does not have an organics diversion program. Some residents have backyard composting, and deal with wood and yard waste through backyard burning. The Co-Op grocery store has an anaerobic digester to process food waste and

other organic waste such as coffee cups, bamboo cutlery and fryer grease, and convert it into a soil supplement and biofuel that may eventually be able to heat the store.

The Co-op’s initiative to turn waste into a valuable resource represents an action at the top of the waste triangle below. The District can explore further opportunities for similar small-scale biogas digesters, but the biggest opportunity is to collaborate with the Regional District on a comprehensive organic waste diversion program.



Goals

- Goal 8 – Organic waste is diverted** from the landfill due to a curbside collection program and on-site composting
- Goal 9 – Single-use plastics are eliminated** in favour of reusable and biodegradable alternatives



ORGANICS DIVERSION

? HOW

The main way to reduce waste related emissions is to divert organic waste, such as kitchen scraps, yard trimmings, and wood waste away from the landfill. Organics diversion can occur through backyard composting, drop-off programs, and/or curbside collection. The District will need to collaborate with the Alberni-Clayoquot Regional District (ACRD) to roll out a curbside collection program and conduct accompanying outreach activities. The District can supplement the curbside program with education on backyard composting and explore subsidizing backyard composters, tumblers and solar cone digesters, while addressing wildlife challenges.

⚙️ STRATEGY

The Official Community Plan supports enhancing waste reduction programs and exploring opportunities for individual or collective composting systems. While there are concerns over wildlife interactions, the food waste is currently mixed with garbage and accessible to animals. A strategic organics diversion plan can incorporate best practices in reducing wildlife attractants while keeping the organics separate from municipal solid waste.

💰 COSTS

The West Coast Landfill is operated by ACRD, so it is the regional district that will be responsible for initiating an organics diversion program. In 2018, ACRD received \$6 million in funding from the federal Gas Tax Fund for the Consolidated Strategic Landfill Diversion Program. There will be costs to the District for community outreach.



OFFICIAL COMMUNITY PLAN

Policy 2.39 supports enhancing programs to reduce waste, recycle and reuse waste where possible

Policy 2.40 supports exploring opportunities for individual or collective composting systems, while acknowledging the challenges that come with minimizing wildlife conflicts



ACTION PLAN - Organics Diversion

1 COLLABORATION ACTION TIMING EFFORT / IMPACT



Collaborate with Regional District for curbside organics collection

2019

high / medium

NEXT STEPS

The Regional District has funding to establish an organics diversion program. The main action for the District is to seek involvement in the planning process and coordinate for community engagement.

3 ENGAGE ACTION TIMING EFFORT / IMPACT



Support local food production

TIMING

EFFORT / IMPACT

low / medium

NEXT STEPS

- » Integrate climate goals with West Coast Agricultural Plan
- » Implement or support a buy-local campaign

2 ENGAGE ACTION TIMING EFFORT / IMPACT



Conduct outreach related to backyard composting and options for food-based businesses

2019

low / low

NEXT STEPS

- » Explore options for subsidized wildlife appropriate backyard composters, tumblers and/or solar cone digesters.
- » Conduct community outreach on backyard composting, gardening, and local food
- » Engage with local food based businesses and accommodation providers to determine options for commercial food diversion. Determine whether the Co-op's system has capacity to accept food waste from other businesses.





4

ENGAGE / POLICY

ACTION

TIMING

EFFORT / IMPACT



Work towards eliminating single-use plastics

2019

medium / medium

NEXT STEPS

- » Establish a phased-in plan for the elimination of single-use petrochemical plastics in the community, starting with plastics bags and straws and eventually including other products such as single-use plastic cutlery, coffee cups/lids, produce bags, etc.
- » Engage food service and retail businesses to voluntarily switch away from single-use plastics
- » Consider a bylaw requiring a phase-out of specific single-use plastics
- » Create zero-waste standards





Integration of the Climate Action Plan into municipal processes

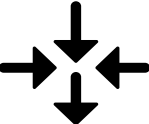





The table below provides a guide to embedding the CAP into other plans, work programs, committees and budgets. Regular reporting and five-year reviews of the plan will help ensure consistent progress.

Goals

Goal 10 - The District integrates climate action into all municipal processes

Goal 11 - The District leads by example by ensuring all buildings are energy efficient, by transitioning to a low-carbon fleet, and establishing zero-waste policies for operations and events

Goal 12 - The District meets the community's **80% GHG reduction and 100% renewable energy targets for its municipal operations**

<i>Incorporate</i>	<i>Budget</i>	<i>Monitor</i>	<i>Convene</i>	<i>Report</i>	<i>Renew</i>
 <p>Embed CAP into other planning documents, e.g.:</p> <ul style="list-style-type: none"> - OCP - Zoning Bylaw - Other plans as appropriate 	 <p>Embed CAP actions into budgeting process. Potentially allocate CARIP grant to a sustainable development fund to help implement the Climate Action Plan</p>	 <p>Monitor CAP implementation indicators for specific actions, e.g.:</p> <ul style="list-style-type: none"> - Number of homes participated in EfficiencyBC programs - Meters of cycling path or sidewalk added - Number of EVs owned by residents 	 <p>Regular meetings to discuss implementation, e.g.:</p> <ul style="list-style-type: none"> - Committee of Council - Staff meetings 	 <p>Regular reports to Council Integrate at same time as CARIP is reported Provide statistics to Council and show community accomplishments.</p>	 <p>Prepare for plan renewal every 3-5 years.</p>

District staff discussed options for integrating the CAP and ongoing climate work into the District’s organizational structure. It was noted that while the overall Plan is under the responsibility of the Planning Department, all departments have some responsibility for climate action. To move the plan forward, a dedicated staff person would be required and potential funding opportunities were discussed, including an option for a shared community outreach coordinator that supports activities in Tofino and Ucluelet.

The District can include items on Climate Action Policy in every report to Council and ensure CAP progress is a regular feature. It is important to report on specific actions and measurable outcomes and sharing this information with the community will help to build awareness. Promotion of local actions already

underway such as LED conversion, active transportation infrastructure, and District owned EV stations highlight Ucluelet’s commitment and success. The District recognizes the value of this and can further build support in the community.

The previous sections of the Climate Action Plan highlight actions that help residents and businesses save energy and emissions. The District can undertake action in the categories of supportive policy, engagement activities, and infrastructure. In addition to supporting the community with climate action, the District can take a strong leadership role by prioritizing climate action across its own operations and infrastructure. The table below lists the actions the District can undertake in the next five years to save energy and emissions in its own operations.

LEADERSHIP IN DISTRICT OPERATIONS

	ACTIONS	In Place?	Year To Do					IMPLEMENTATION NOTES
			2019	2020	2021	2022	2023	
1	Building Operations							
	Commit to building the most energy efficient facilities							Implement a high performance building policy that requires a minimum level of energy performance, referencing the Energy Step Code where applicable. Consider other sustainability features such as water conservation, materials (such as a Wood First approach). Require an evaluation of renewable energy sources for new construction and major renovations
	Conduct energy audits of existing facilities	X						Determine if further audits are necessary (UAC Hall and Rec Hall)
	Complete energy improvements already identified by previous audits or studies							Review energy audit of Community Centre and prioritize improvements
	Incorporate energy management into annual building maintenance procedures							Monitor energy consumption using MyHydro if available. Consider benchmarking Community Centre using Energy Star Portfolio Manager.

2	Fleet Operations								
	Develop a vehicle purchasing policy								Implement a Green Fleet Policy that guides purchasing decisions towards low carbon vehicles and right-sizing vehicles. Purchase a fully electric fleet vehicle when feasible
3	Infrastructure								
	Conduct energy focused operational review of infrastructure								
	Evaluate energy recovery options from facilities								Investigate opportunities for energy recovery from existing and new facilities and infrastructure. E.g. Wastewater heat recovery
4	Purchasing and Corporate Leadership								
	Incorporate energy considerations into purchasing policies								
	Incorporate Life Cycle Costing into all major purchasing decisions								
	Incorporate GHG tracking requirements into service provider agreements								
	Encourage and recognize staff who develop new GHG reduction measures								
5	Implementation								
	Identify the Owner of the plan								
	Assign the CARIP grant into an energy conservation fund								
	Establish a GHG reduction target								Establish a GHG and energy target for corporate operations and categories (i.e. Fleet)
	Develop an administrative system for tracking corporate emissions								Consider an energy and emissions tracking tool to assist with CARIP reporting, PCP reporting, and energy management.
	Develop an emissions reduction reporting process								Tied to above



POLICY AND INFRASTRUCTURE PLAN

The implementation plan is structured in two pieces with the first being policy and infrastructure which is largely within the sphere of control of the District. The second piece to the plan is community engagement, which is detailed in the following section.

The chart below provides an overview of the key areas of action, tasks, timing, relative impact on greenhouse gas emissions, and relative cost.

The plan begins with actions that are foundational to achieving change including securing commitment and resources for the plan and putting the pieces in place for steady, ongoing action from staff and future councils. . The District can demonstrate leadership in its own operations by implementing the actions outlined in the previous pages.

Transportation will involve significant infrastructure investments over many years, as outlined in the Official Community Plan maps related to sidewalk and multi-use path infrastructure. Electric Vehicle (EV) charging infrastructure, supportive policy, and regional collaboration all support the shift to EV's.

Retrofitting existing buildings for efficiency and getting off of oil will be a priority along with setting out how best to support more efficient new buildings.

Waste will require active engagement with the Regional District to get organics diversion happening on a large scale.



UCLUELET CLIMATE ACTION PLAN

ACTION	2019				2020				2021				2022				2023				Impact	Cost
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Leadership - Organization																						
Finalize Plan & Council Adoption	█																					L
Budget (capital & operating)	█																					L
Update Responsibilities / Reporting			█	█																	H	L
Integrate CAP into Strategic Plan	█																				H	L
Scope & RFP climate engagement team		█																			H	M
Show leadership by implementing the District Operations action on pages 41-42	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█		

Climate Action Plan continued on next page...



UCLUELET CLIMATE ACTION PLAN CONTINUED

ACTION	2019				2020				2021				2222				2023				Impact	Cost
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Transportation Infrastructure																						
Survey																					M	-
Business Attraction & Retention																					M	-
Recognize carbon value of avoided deforestation																					L	-
Visitor length of stay																					M	L
Visitor offsets																					L	M
MOTI collaboration on Peninsula																					M	M
Update subdivision servicing bylaw																					M	H
Path & sidewalk improvements per OCP																					H	M
Collaborate with BC Transit																					M	M
Shuttle bus																					L	M
Adopt anti-idling bylaw																					L	L
Reduce speed limit in community																					L	L
Plan truck-share																					L	L
8 'L2' EV chargers at public locations																					M	M
Hwy 4 Regional Collaboration & engagement																					M	M
Update building bylaw for EV charging																					L	H
Ongoing engagement with BC Hydro/MOTI																					L	M
Consider public EV charging an amenity																					L	M
Ongoing public engagement																					M	H
Work with local hospitality sector - EV fleets																					-	-

Climate Action Plan continued on next page...



UCLUELET CLIMATE ACTION PLAN CONTINUED

ACTION	2019				2020				2021				2022				2023				Impact	Cost
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Buildings																						
Promote efficiency at time of permit																					L	L
Initiate Step Code consultation																					L	L
Establish a retrofit program - incentive & outreach																					M	M
Adopt Step Code through incentives & regulation																					L	L
Top-up incentive for fuel-switching & retrofits																					M	M
Heat pump engagement campaign																						
Explore wave energy demonstration project																						
Waste																						
Collaborate with RD on organics diversion																					H	M
Conduct outreach related to composting																					L	L
Support local food production																					L	M
Work towards eliminating single-use plastics																					M	M



ENGAGEMENT PLAN

The actions in the previous section provide the organizational commitment, physical infrastructure, and supportive policy for change. It is the many decisions of individuals that will actually create the change. For this reason, the engagement plan is focused on supporting the social side of change.

The District of Ucluelet can control the provisioning of infrastructure and set policy. It is up to the individual residents and businesses in Ucluelet to make daily small choices and less frequent big choices to save energy, emissions, and money...and as a major tourism destination, influence visitors from around the world to do the same.

This will require significant, ongoing, dedicated community and stakeholder engagement. Of particular note is engagement on electric vehicles, organics diversion, active transportation and transit to promote the use of the infrastructure once deployed.

This plan recommends a part-time (50%) contract community engagement coordinator with oversight from District staff. This could be an individual or an organization with demonstrated experience in engaging the local community, passion for climate action, and strong communication and project management skills. A budget estimate for this is \$25,000 annually. This cost is small compared to the cost of the infrastructure that will be deployed.

Although many actions are tagged for implementation in 2019, it really a focus on education and outreach to the community on many climate action activities. The District can promote activities and celebrate success through its website, facebook page, newsletters and posters. The following is a list of potential engagement topics referred to in this plan:

- » www.encybc.com and utility incentive programs
- » Sustainability checklists
- » Builder and developer workshops and BC Energy Step Code
- » Efficient wood stove programs and clean air programs
- » Promote lower speed limits
- » Advertise the benefits of active transportation and additions to the network
- » Anti idling campaign
- » Ride sharing
- » Electric vehicle and golf cart awareness
- » Water conservation
- » Organics diversion
- » Elimination of single-use plastics
- » Celebrate success and green economy opportunities.





LIST OF ACRONYMS

BAU	Business as Usual
CEA	Community Energy Association
CEEI	Community Energy and Emissions Inventory (inventories created by the Province for each local government)
CEEP	Community Energy and Emissions Plan
CO2	Carbon Dioxide
DSM	Demand Side Management (measures used to reduce energy consumption)
ECAP	Energy Conservation Assistance Program, a program offered through BC Hydro that provides free home energy efficiency retrofits to income qualifying households
GHG	Greenhouse Gas (there are several different anthropogenic GHGs and they have different relative impacts.)
GJ	Gigajoules (one of the measures of energy)
HDV	Heavy Duty Vehicles (i.e. commercial vehicles, like trucks)
IPP	Independent Power Project
kWh	kilowatt hours (standard measure of energy)
LAP	Local Area Plan
LDV	Light Duty Vehicles (i.e. the types of vehicles driven by ordinary people)
OCP	Official Community Plan
RGS	Regional Growth Strategy



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