Environmental

A Viable Natural Environment

Sustainability Deep Dive

Transport Housing Consumption Technology How sustainable development affects you





Who am I

- ▶ Geoff Snicer. B.Tech EET, PMP
- Born and raised in Kamloops, BC
- Father of 2
- Very proud Canadian







AGENDA

- What is Sustainable Development
- Legislation
- Land Use & Water Use
- Housing and Transportation
- Smart City ??
- Solutions

Disclaimer

- ► This presentation has information from municipalities across BC
- Some of it directly from RDCK
- You should confirm this on your own



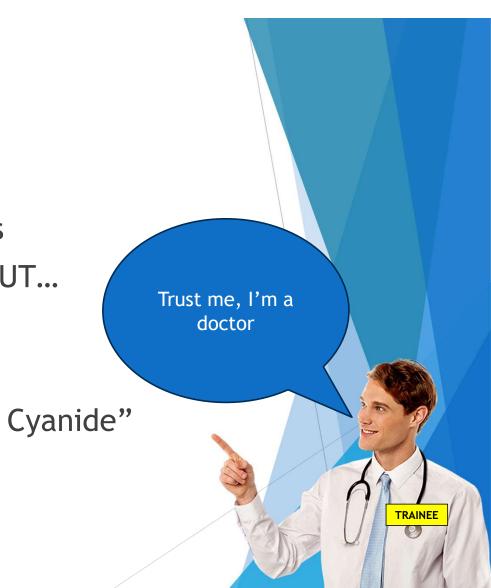
NUANCE ALERT!

Complicated and segmented ideas
There is a reason for everything BUT...

We must add context

"Teaspoon of sugar with a drop of Cyanide"





Sustainable Development

Developing in a way that's good for the environment

What is Sustainable Development?

The Round Table eventually defined sustainable development as "ensuring that our use of resources and the environment today does not damage the prospect of their being used by future generations."

"Sustainable development' is an oxymoron; something can not sustain and develop at the same time," TWC member Bronwen Chernencoff told



The goal of the B.C. Round Table on the Environment and the Economy is to promote sustainable development.

But some are skeptical about the whole concept, and even the Round Table's chairman admits it has created some difficulties.

"There were about 400 definitions of sustainable development (when we started)," Chuck Connaghan said Tuesday at a Round Table open house in Kamloops.

The Round Table eventually defined sustainable development as "ensuring that our use of resources and the environment today does not damage the prospect of their being used by future generations."

That definition does little to appease the Kamloops-based Thompson Watershed Coalition, which made a presentation to the Round Table yesterday at the Coast Canadian Inn.

"Sustainable development' is an oxymoron; something can not sustain and develop at the same time," TWC member Bronwen Chernencoff told the six Round Table members.

"Many theorists believe sustainable development is impractical, and that a no-growth economy is a much more feasible option," she said.

Ms. Chernencoff questioned the Round Table's goal and make-up. "Without regard for such visions as environmental/economic har-

mony, the Round Table, a government-appointed board without gender balance and with no Interior environmental representative, has chosen the goal of sustainable development without public consultation," she said.

History of Sustainable Development

https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf



"Current lifestyles and consumption patterns of the affluent middle class - involving high meat intake, the use of fossil fuels, electrical appliances, home and work-place air-conditioning, and suburban housing - are not sustainable" - Maurice Strong, 1992

What is Agenda 21? Kamloops This Week, April 1992



The summit will bring together more than 161 world leaders in the biggest global environment conference ever. The recommendations that come from that meeting - which are being called Agenda 21 - will hopefully be a blueprint for global sustainable development which will extend into the 21st Century.

THE EARTH THE EARTH for the Earth

Canadian Tire is interested in alternatives that will assist in positive environmental action.

Barb Baker, marketing manager, says the corporation's concern for the environment led to their participating with the larger organization -United Nations/International Earth Day program called Earth Voice - to promote awareness of ways to make manageable and sustainable changes in their lifestyles which can make a difference.

"Canadian Tire considers the preservation of our environment to be an essential part of our mission to serve our customers' needs," says Ms. Baker, "We're re-thinking the way ye do business as we recognize our collective impact on the environment."

The Earth Day Flag is national in scope and will be unveiled at a special ceremony in Ottawa. May 27, before travelling to Rio for presentation at the Earth Summit being held in June.

The summit will bring together more than 161 world leaders in the biggest global environment conference ever. The recommendations that come from that meeting - which are being called Agenda 21 - will hopefully be a blueprint for global sustainable development which will extend into the 21st Century.



Promoting Sustainable Development The Municipal Primer (1994) Through Local Strategic Actions A MUNICIPAL PRIMER ON THE UNITED NATIONS CONFERENCE Agenda 21 ON ENVIRONMENT AND DEVELOPMENT Agenda 21 recognizes that unsustainable development includes suburban sprawl, continued dependence on the private automobile, and residential development which (UNCED) favors single detached homes. "a comprehensive blueprint for global actions to affect the transition to sustainable development" Prepared for Canadian Council of Ministers of the Environment (CCME) and Federation of Canadian Municipalities (FCM) SUNDAL SUNDAL Canadian Prepared by The Canadian Urban Institute Urban Canadian Council Le Conseil canadien Institute and of Ministers des ministres of the Environment de l'environnemen The Urban Environment Centre

http://www.shelaw.ca/wp-content/uploads/2022/10/municipal-primer-copy-4.pdf

The Municipal Primer (1994) - New Doctrines

Promoting Sustainable Developmen Through Local Strategic Actions

A MUNICIPAL PRIMER ON THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT (UNCED)

ncil of Ministers of the Environment (CCME adian Municip Prepared by

and

NUNNA NUNNA Canadian Urban

Institute

OF CANADIAN

Canadian Council Le Conseil canadien of Ministers des ministres of the Environment de l'environnemen

Rio Declaration - New Doctrines:

To achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from

States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.

The precautionary approach shall be widely applied and lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

> Thinking globally, acting locally is not just a slogan. Sustainability cannot be achieved if each community assumes that others will act. Action is required by all and each must participate.

aka "GLOCAL"

Local action, regional collaboration, and global contribution

The Local Agenda 21 Planning Guide (1996) An Introduction to Sustainable Development

- Published by ICLEI & IDRC in 1996
- IDRC is a Canadian Federal crown corporation created in 1970
- https://idrc-crdi.ca/sites/default/files/openebooks/448-2/

"Sustainable development is a program of action for local and global economic reform—a program that has yet to be fully defined."

The Local Agenda 21 Planning Guide

AN INTRODUCTION TO SUSIAINABLE DEVELOPMENT PLANNING

UNEP

















Canada



Canadian



ICLEI Founding Document (1990)

n order to secure an environmentally sustainable future, the world's local governments must

begin to restructure social and economic life at the local level.





MISSION

On September 5-8, 1990, local government representatives from around the world will gather at the United Nations to launch a new direction in global environmental protection: acting locally for a sustainable future. International, national, and local organizations have called for the World Congress because of a growing recognition that global environmental problems can only be solved through a restructuring of human society at the local level. Local governments are

https://escholarship.org/uc/item/1nn015nc



Sustainable Development (un)Defined

https://laws-lois.justice.gc.ca/eng/acts/F-8.6/page-1.html Federal Sustainability Act

Basic Principle

What's the legal definition?

Principles

5 The following principles shall be considered in the development of sustainable development strategies:

(a) the principle that sustainable development is based on an efficient use of natural, social and economic resources and the need for the Government of Canada to integrate environmental, economic and social factors in the making of all of its decisions;

It's everything

Government

of Canada

(a.1) the principle that sustainable development

(i) is a continually evolving concept,

Cannot be defined, there are no limits



What is Unsustainable?

(Whatever they say it is)

- Automobiles
- Rural living

► Fertilizer

► Flying

- Air conditioning > Farming
- Appliances
- Eating meat
- Suburban homes
- Fossil fuels

2015: Agenda 21 becomes Agenda 2030



Government Gouvernement of Canada du Canada

Search Canada.ca

MENU 🗸

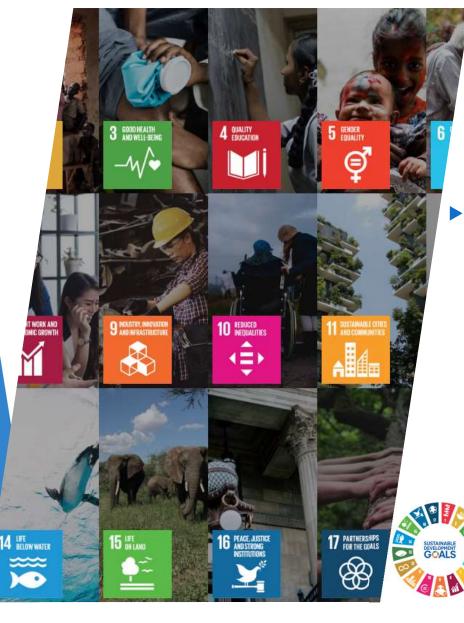
Home > Canada and the world > Canada's efforts to address global issues > Canada's international assistance priorities

> The 2030 Agenda for Sustainable Development

The 2030 Agenda for Sustainable Development

In September 2015, Canada and 192 other UN member states adopted the 2030 Agenda for Sustainable Development. The 2030 Agenda is a 15-year global framework centred on an ambitious set of 17 Sustainable Development Goals (SDGs), 169 targets and over 230 indicators. The 2030 Agenda envisions a secure world free of poverty and hunger, full and productive employment, access to quality education and universal health coverage, the achievement of gen equality and the empowerment of all women and girls, and an end to environmental degradation.





Modern Sustainable Development

- UN Sustainable Development Goals
 - 17 Goals
 - Agreement with 192 Countries
 - Integrated management and reporting system to advance policy goals on poverty, hunger, health, resources, energy, water, equity, gender, education, economy etc...







What SD Means in Practice

https://ourworldindata.org/co2/country/china

Will SD Solve Climate Change?

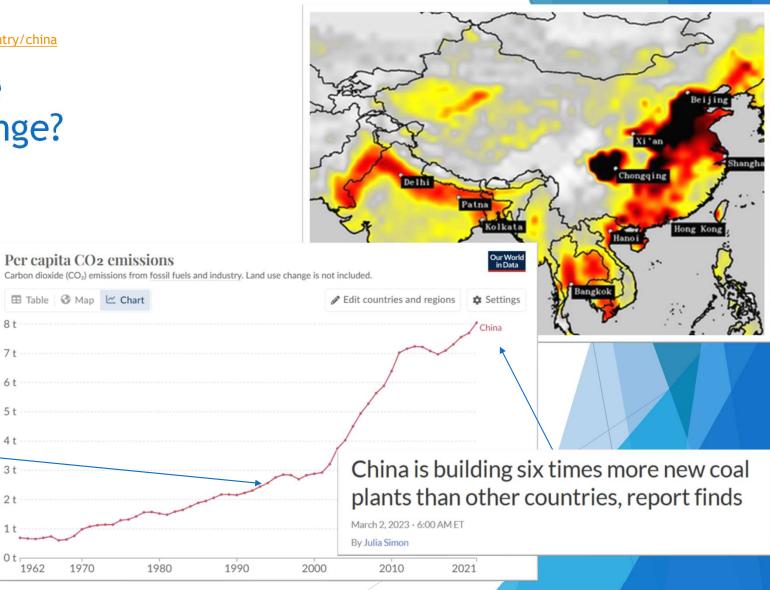
China, India, &
 developing world are
 driving the bus

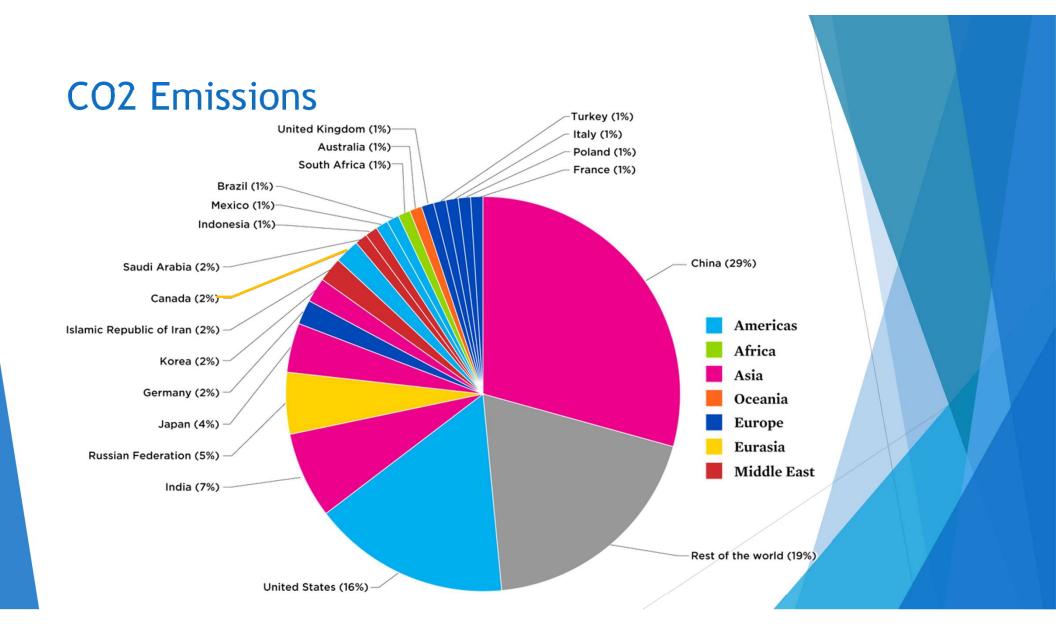
1994:China unveils plan

BEIJING — China on Friday unveiled an ambitious plan to promote sustainable development which will rely heavily on foreign money.

Agenda 21 addresses how China, with the world's largest population of 1.2 billion and rapidly rising levels of both consumption and pollution, can realize its economic hopes without throwing its environment into chaos.

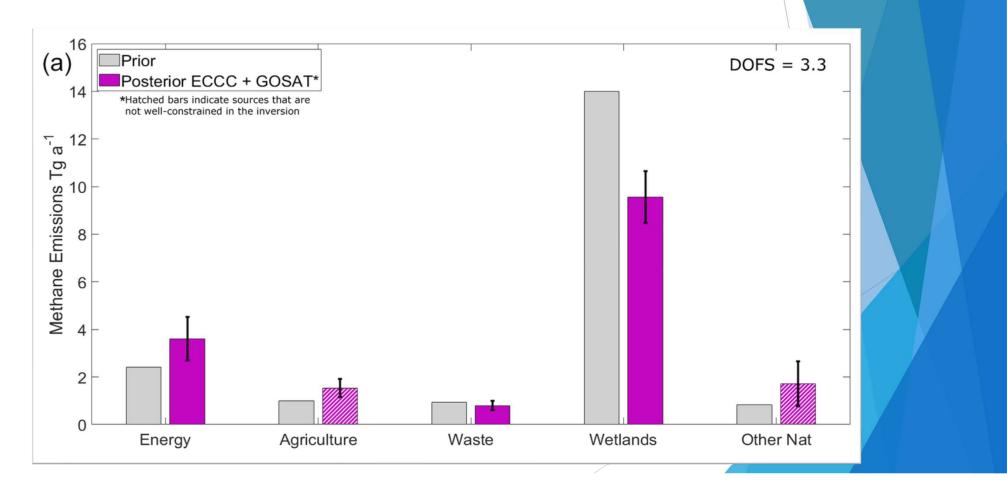
The plan was drawn up by more than 300 Chinese experts, with the help of the UN Development Program, after China promised to follow the objectives of sustainable development set out at the June 1992 Earth Summit in Rio.





What about Methane?

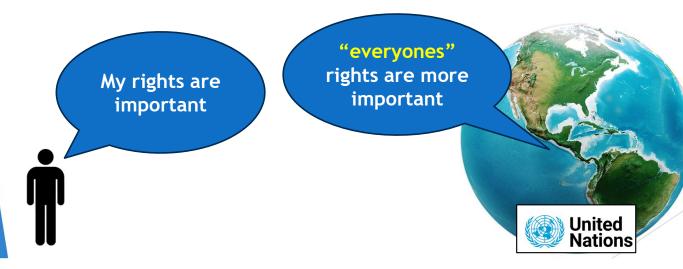
https://acp.copernicus.org/articles/21/18101/2021/#&gid=1&pid=1



Collective Rights Vs. Individual Rights

- Individual rights are defined
- Collective rights are undefined with no limits
- Accepting we must act for collective rights <u>without any limits</u> means you have no rights

https://www.un.org/en/about-us/universal-declaration-of-human-rights



Collective Rights - U.N. Declaration of Human Rights

Controls the individual for the greater good of a global Community

"Rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations"

Government grants, restricts or withdraws your rights according to its needs. You and the product of your labor belong to the community.



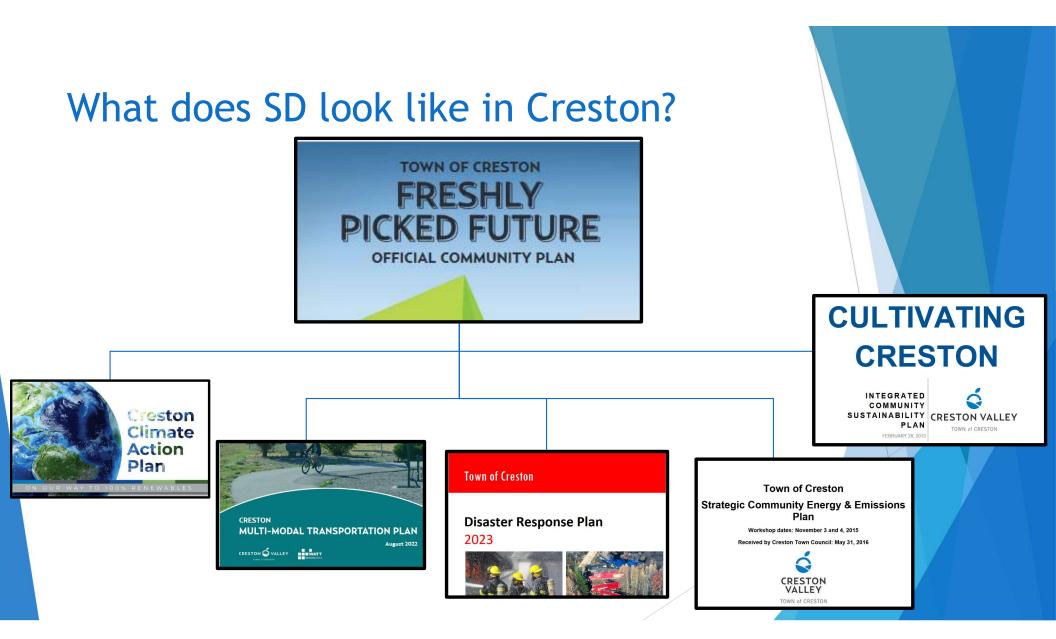
Sustainable Development Recap

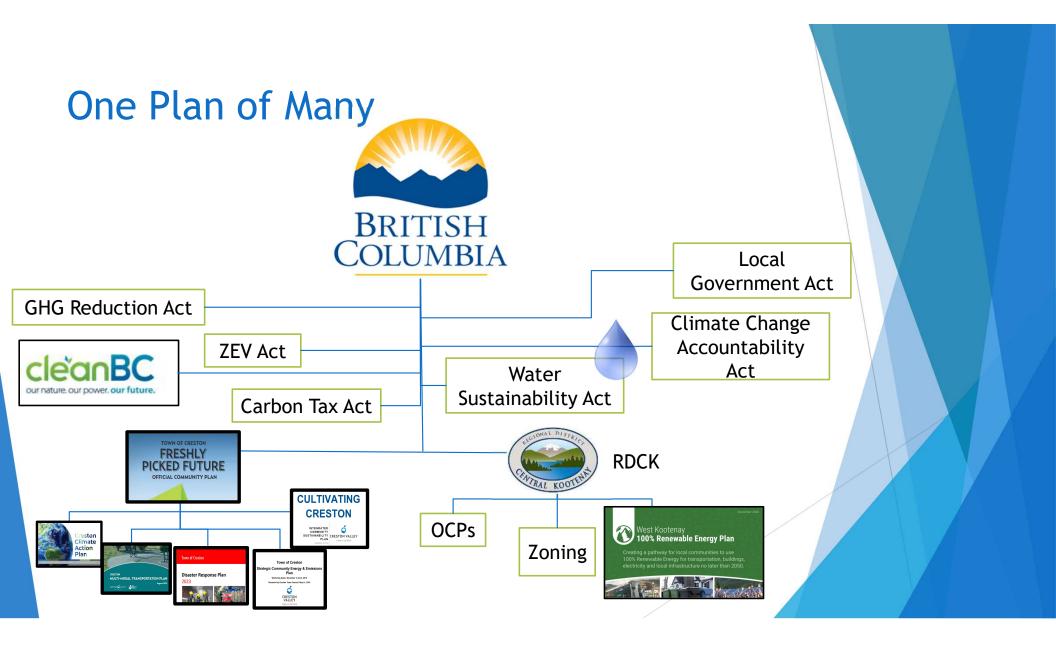
- Agenda 21 = Sustainable Dev.
- Everything we do must be "sustainable" "because climate"
- Philosophy: Collective Rights > Individual Rights, Think Globally Act Locally
- Sustainable development cannot be defined, is always changing
- New legal & legislative doctrines: No Proof Necessary

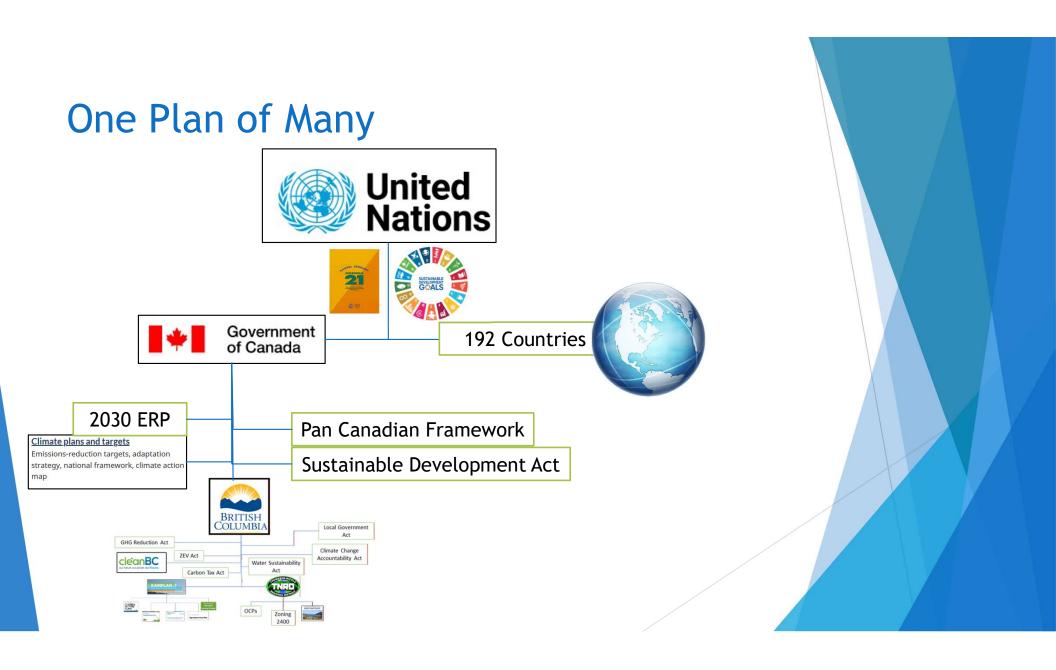


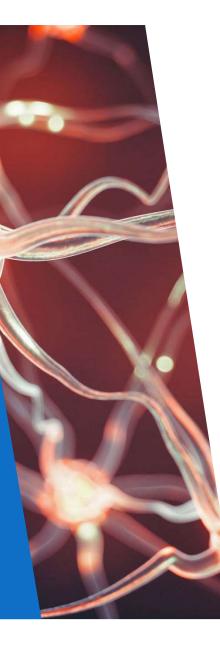
Sustainable Development Recap

- Plans were not conceived or written with Canadas interests first
- Much of our modern life is considered unsustainable
- Requires undefined economic and social transformation
- Result in government control and management most things
- Will not stop climate change, will not prevent the next crisis









"Social Procurement" aka ESG

- All spending must meet ideological litmus test
- Political Commissar now has control of the money

https://www.creston.ca/social-procurement

Social Procurement

The Town of Creston incorporates social procurement into purchasing decisions, ensuring that they are socially, ethically and environmentally responsible while maintaining financial diligence. Social procurement asks that organizational purchasing decisions are made from a "best value" perspective, meaning that in addition to the budget and quality, vendor policies and practices respecting employment, environment, sustainability and local economic impact are considered. The Town adopted Social Values into our General Procurement Policy in 2023.



Environmental Asset Management aka ESG

OBJECTIVES

Update and improve RDCK systems and guiding documents to better support and further climate actions and initiatives

ACTION

Develop an Asset Management Plan for climate adaptation starting with an asset inventory while incorporating region specific climate projections and impacts

TIMELINE 2023-2026

NEXT STEPS

- Develop inventory of assets (Value Statement can be used as a facility inventory) 2022
- Assess RDCK software needs and availability to support asset management planning and implementation - 2023
- Develop an Asset Management Plan (including an asset management system for all facility data) - 2023-2026
- Create an Asset Manager position to liaise between Finance and other departments regarding asset management - 2025-2026
- Integrate energy-efficiency considerations, based on emissions data, into an Asset Management Plan - 2024-2026

BENEFITS & CONSEQUENCES

 Helps the RDCK understand and better manage current assets and related decisions, and identify ways to improve decisions and operations to reduce climate impacts and improve sustainability

POLICIES, RESOURCES, TOOLS

- Climate Adaptation Asset Management Training
- 100% Renewable Energy Plan

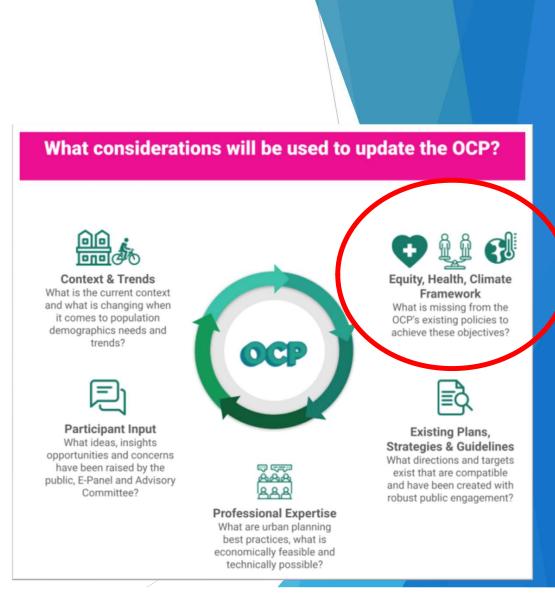
CONTROL /INFLUENCE: Control

MITIGATION /ADAPTION: M&A

The Wrong Objectives

https://www.nelson2050.ca/

- Public has no input on the objectives
- Equity & Climate Framework only
- No focus on individual rights, property rights, freedom, prosperity
- No guardrails



What is Climate Action

Creston: https://letstalk.creston.ca/climate-action-in-creston

Generally linked to reducing CO2

https://www.canada.ca/en/employment-social-development/programs/agenda-2030/climate-action.html

Ideologically Driven (DEI)

Data Intensive, must track everything

https://sdgcif-data-canada-oddcic-donnee.github.io/

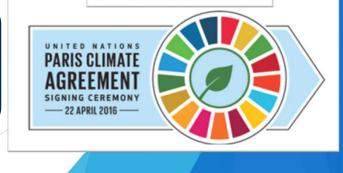
According to the United Nations:

"Climate Action is intrinsically linked to all 16 of the other Goals of the 2030 Agenda for Sustainable Development"

https://www.un.org/sustainabledevelopment/climate-action/



ACTION

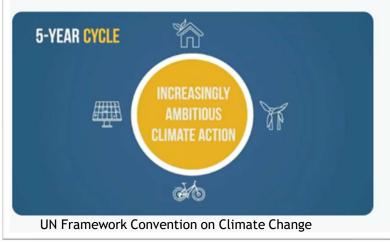


https://unfccc.int/process-and-meetings/the-paris-agreement

Paris Agreement

Canada signed a legally binding treaty under the UNFCCC in 2015

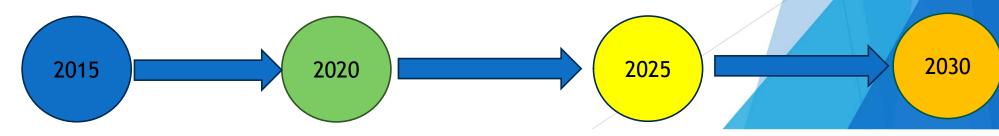
How does the Paris Agreement work?



Implementation of the Paris Agreement requires economic and social transformation, based on the best available science. The Paris Agreement works on a five-year cycle of increasingly ambitious climate action -- or, ratcheting up -carried out by countries. Since 2020, countries have been submitting their national climate action plans, known as nationally determined contributions (NDCs). Each successive NDC is meant to reflect an increasingly higher degree of ambition compared to the previous version.

5 Year

Cycles





What is Climate Action (General)

Main purpose is to cut CO2 emissions

- Mixed use building & densification
- Reducing reliance on the automobile
- Reducing energy use, retrofits
- Zero Waste economy circular economy
- Limiting consumption
- Smart City solutions
- Emergency Declarations

Climate Emergencies

BC Cities declaring a 'Climate Crisis'

CANADA

National climate emergency declared by House of Commons

By Hannah Jackson • Global News Posted June 17, 2019 6:40 pm • Updated June 18, 2019 10:19 am

Bowen Island Municipal Council Burnaby City Council Capital Regional District Central Regional District Council Central Saanich Municipal Council Chase Village Council Colwood City Council Cowichan Valley Regional District Council Duncan City Council Esquimalt Town Council Highlands (District of) Council Islands Trust Council Langley City Council Langley Town Council Lions Bay Village Council Nanaimo City Council New Westminster Council North Cowichan Municipal Council North Vancouver District Council Oak Bay Municipal Council Pemberton Village Council Penticton City Council Port Moody City Council Powell River City Council Qualicum Beach Town Council qathet Regional District Board

Richmond City Council Saanich District Council Sidney Town Council Smithers Town Council Sooke District Council Squamish Council Surrey City Council Vancouver City Council Victoria City Council View Royal Town Council West Vancouver District Council White Rock City Council

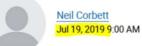
https://climateemergencydeclaration.org/ Why Declare Emergency?

HOME NEWS - ACTION GROUPS - PETITIONS - SUPPORTERS - TOOLBOX - MEDIA - ABOUT -

CLIMATE EMERGENCY DECLARATION

Maple Ridge council will be asked to declare climate emergency

Vancouver, London and Los Angeles have already done so



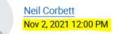
Maple Ridge Climate Hub adds voices to call for emergency action

Promote sharing public message to world leaders at Cop26

CALL TO DECLARE A CLIMATE EMERGENCY

TAKE ACTION

LATEST NEWS



S f 🗞 in E

Local Climate Action Groups in Kootenays

+65 more

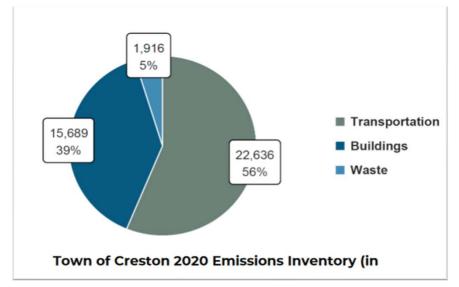
RSVP

- https://www.eastkootenayclimatehub.ca/
- https://www.westkootenayclimatehub.ca/



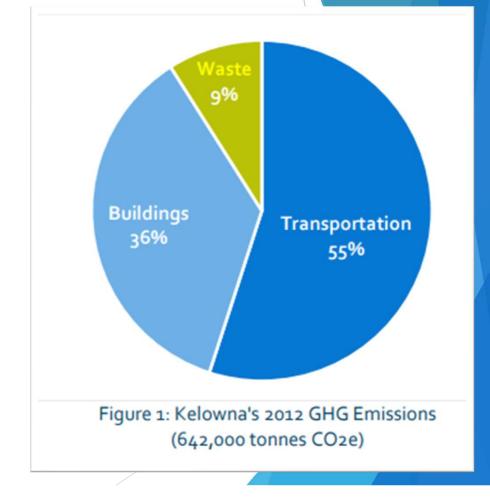


Community Climate Action Plans (CCAP)



Reduce CO2 Emissions

- **1. Reduce current emissions** by restricting consumption
- **2. Reduce future emissions** with smart growth development policies

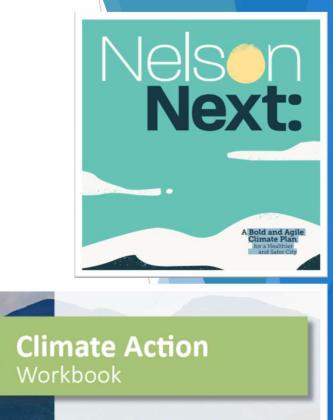


Climate Action Plans

https://letstalk.creston.ca/climate-action-in-creston https://www.nelson.ca/804/Nelson-Next-Climate-Plan

- 5 BIG Moves
- Written by consultants
- Largely Similar across all jurisdictions
- Focused only on collective rights
- Ideologically driven







Hello - thank you for taking a look at the RDCK Climate Action workbook. This document provides more information about the actions we are working on to reduce risk and increase community resilience.

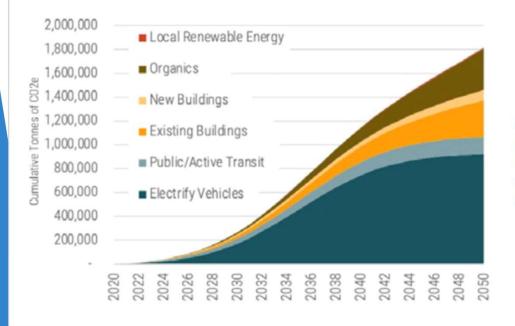
It is a work in progress.

West Kootenay 100% Renewable Energy Plan

Creating a pathway for local communities to use 100% Renewable Energy for transportation, buildings, electricity and local infrastructure no later than 2050.

Climate Action Plan:

https://westkootenayrenewableenergy.ca/wp-content/uploads/2020/12/West-Kootenay-Renewable-Energy-Plan.pdf



By working together, we can prevent 1,800,000 tonnes of carbon emissions – as much as taking 13,000 cars off the road for 30 years!



RDCK October 2020

Smart Development: Smart Growth

- Urban planning and transportation theory that concentrates growth in compact walkable urban centers to avoid <u>sprawl</u>. It also advocates compact, <u>transitoriented</u>, <u>walkable</u>, <u>bicycle-friendly</u> land use, including <u>complete streets</u>, and <u>mixed-use development</u> with a range of housing choices.
- Associated Terms: 15 minute city, smart city, intelligent city, resilient city

Not necessarily a bad idea



What is a 15 minute City

- The 15-minute city is an urban planning concept in which most daily necessities and services, such as work, shopping, education, healthcare, and leisure can be easily reached by a 15-minute walk, bike ride, or public transit ride from any point in the city
- Attempt to make a sustainable low energy use city, and it works for URBAN design





Not a Conspiracy

Creston 15 minute city?

OCP in Creston

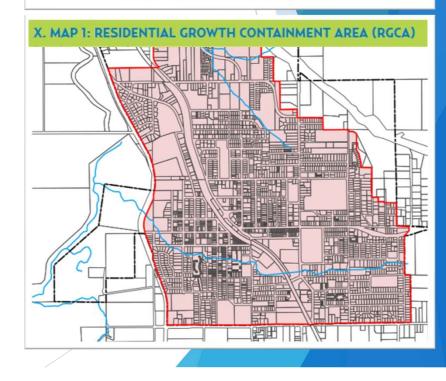
- Reduced reliance on automobiles
- Complete Compact Development
- Complete Streets
- Complete Neighbourhoods
- Residential Growth Containment

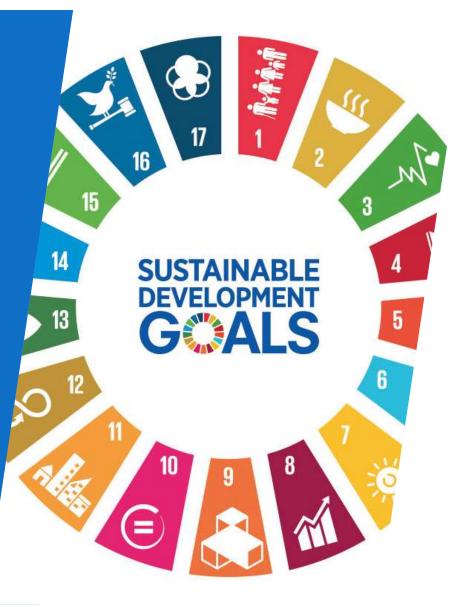
Is this a bad idea?



ENERGY AND GHG EMISSION POLICIES

1.1 Encourage energy efficient Residential Infil Development and densification within currently serviced areas, with a focus on the Residential Growth Containment Area (RGCA).





Bad Ideas Associated with 15 Min City

- Surveillance & tracking
- Concentration and control of transport
- Restrictions on private property
- Land & water use restrictions
- Consumption Interventions

All SDGs

Land Conservation - 30 x 30

https://www.canada.ca/en/environment-climate-change/news/2022/12/government-of-canada-recognizing-federal-land-and-water-tocontribute-to-30-by-30-nature-conservation-goals.html https://www.doi.gov/pressreleases/fact-sheet-president-biden-take-action-uphold-commitment-restore-balance-public-lands

https://www.canada.ca > en > environment-climate-change > services > environmental-indicators ...

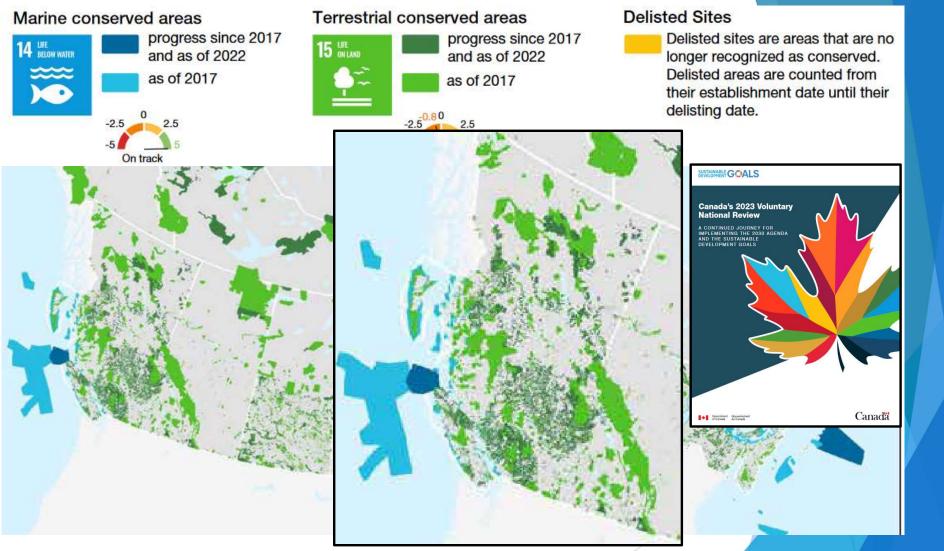
Canada's conserved areas - Canada.ca

Canada has set a target to conserve 25% of its **lands** and 25% of its oceans by 2025, and **30**% of each by 2030. In December 2022, parties to the Convention on ... A Renewed Approach to **Land** and Freshwater **Conservation** in Canada. Appendix 2 Pan-Canadian Definition for Recognizing and...

CONSERVING 30% OF AMERICA'S LANDS AND OCEAN BY 2030

The Executive Action will direct the Interior Department to outline steps to achieve the President's commitment to conserve at least 30% each of our lands and waters by the year 2030, as recommended by scientists, in order to safeguard our health, food supplies, biodiversity, and the prosperity of every community. Interior will undertake the process with broad engagement, including agricultural and forest landowners, fishermen, outdoor enthusiasts, sovereign Tribal nations, States, Territories, local officials, and others to identify strategies that reflect the priorities of all communities.





https://www.canada.ca/en/employment-social-development/programs/agenda-2030/voluntary-nationalreview/2023-report.html

Sustainable Land Use & Development

https://habitat.scarp.ubc.ca/wp-content/uploads/2018/06/1978-Gertler-Len-Habitat-and-Land-UBC-CHS-book.pdf

UN Habitat 1 - Vancouver 1976

Preamble

I Land, because of its unique nature and the crucial role it plays in human settlements, cannot be treated as an ordinary asset, controlled by individuals and subject to the pressures and inefficiencies of the market. Private land ownership is also a principal instrument of accumulation and concentration of wealth and therefore contributes to social injustice; if unchecked, it may become a major obstacle in the planning and implementation of development schemes. Social justice, urban renewal and development, the provision of decent dwellings and healthy conditions for the people can only be achieved if land is used in the interests of society as a whole.



Sustainable Water Management



<u> https://www.youtube.com/watch?v=9J5LuFijhBc</u>

SDG 6: Target Indicator 6.5 By 2030, implement integrated water resources management at all levels

IWRM helps to protect the world's environment, foster economic growth and sustainable agricultural development, promote democratic participation in governance, and improve human health.

Catalogue, License, Restrict water use.

Water Sustainability Act

https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/14 015#section5

Government controls use of all water

License all agricultural water sources

Register all domestic water

No Science Necessary: "if the minister considers"

Municipal Water Licenses

WATER RES	STRICTIONS	1 and
Stage 1	NORMAL	1000
Stage 2	MODERATE	
Stage 3	ACUTE	AL P
Stage 4	SEVERE	4

Vesting water in government

5 (1) The property in and the right to the use and flow of all the water at any time in a stream in British Columbia are for all purposes vested in the government, except insofar as private rights have been established under authorizations.

Water rights during water scarcity, including drought

Water users, whether licensed or not, are required to use water as efficiently as practicable. When voluntary conservation measures are not sufficient to meet all water rights, or to protect critical environmental flows or the survival of a fish population, the Water Sustainability Act (WSA) provides authority for statutory officials, under specified conditions, to regulate water diversion, use (and storage) by users of both stream water and groundwater. When this regulatory action is required, it can now involve groundwater users even if they do not have an authorization.

Water rights during water scarcity, including drought

Water users, whether licensed or not, are required to use water as efficiently as practicable. When voluntary conservation measures are not sufficient to meet all water rights, or to protect critical environmental flows or the survival of a fish population, the Water Sustainability Act (WSA) provides authority for statutory officials, under specified conditions, to regulate water diversion, use (and storage) by users of both stream water and groundwater. When this regulatory action is required, it can now involve groundwater users even if they do not have an authorization.

BC Water Management

ACTION Support demand side management	 NEXT STEPS Partner with farms/greenhouses on water metering and consincentives (eg. privileging water access to farms metering and 				
TIMELINE On-Going	 level of stewardship) - 2023-2026 Consider Erickson for farm metering opportunities (Creston a water metering on farms) - 2023-2024 Advocate for metering of high-water consumption industries 2023-2026 	groundwater use requires a <i>water licence</i> . <u>Apply for a</u>			
	 BENEFITS & CONSEQUENCES Decreased water demand Help avoid water shortages Helps the agricultural community demonstrate water steward 	Groundwater used exclusively for <u>domestic use does not require a licence,</u> but if you are a domestic well owner you are strongly encouraged to register your well.			
	 POLICIES, RESOURCES, TOOLS Water Conservation Strategy 	Registering your domestic well creates a record on the <u>Provincial</u> <u>Groundwater Wells and Aquifer</u> (GWELLS) application of your water use,			
	CONTROL /INFLUENCE: MITIGATION /ADAPTION: N	which helps to ensure that your use is considered in decision making and during times of water scarcity.			
		Water supply wells that were drilled/altered/decommissioned after February 29, 2016 must be registered on the <u>Provincial Groundwater Wells</u> <u>and Aquifer</u> (GWELLS) application. It is a requirement that registered well drillers and well pump installers submit a well <u>construction/alteration</u> / <u>decommission</u> report to the Comptroller of Water Rights and the well owner within 90 days after completion of the works for water supply wells.			

ZERO Carbon Future

New Buildings

- Changes to the Building Code
 "Zero Carbon Step Code"
 - No gas installed after 2030 BCBC
 - 100% efficiency (HIGH COST)

Old Buildings

- Retrofit ALL old buildings by 2050
- Install smart meters
- Everything electric, no gas

https://www2.gov.bc.ca/gov/content/industry/construction-industry/buildingcodes-standards/existing-buildings



BC Step Code

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/bulletins/20_better_ee_zcsc.pdf



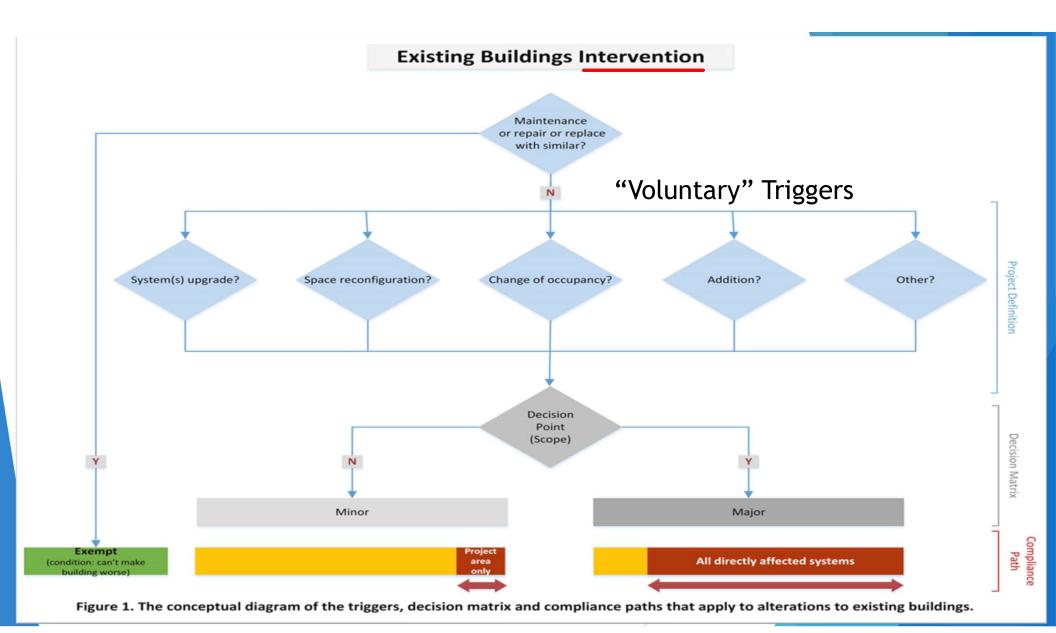
2027. In 2030 the BCBC will require all new buildings to be zero carbon.

MANDATORY RETROFITS?

https://www2.gov.bc.ca/gov/content/industry/construction-industry/building-codes-standards/existing-buildings

- Joint Task Force Alterations to Existing Buildings (JTG-AEB)
- Pan Canadian Framework
- Develop a model code for existing buildings to help guide energy efficiency improvements during renovations, with the goal that all provinces and territories adopt it."

Government Gouvernement of Canada du Canada	Search NRC.Canada.ca	RDCK Climate Workbook			
	Q Search	OBJECTIVES Encourage residents and	businesses to retrofit existing buildings to meet 20-30% energy efficiency improvements		
 MENU ✓ <u>Canada.ca</u> > <u>National Research Council Canada</u> <u>Certifications, evaluations and standards</u> > <u>Codes Canada</u> <u>Codes Canada publications</u> Final report - Alterations to existing buildings		ACTION Encourage Energuide assessments for renovations and promote funding opportunities for achieving this action	 NEXT STEPS Adopt Provincial Retrofit Code when it becomes available - 2026-2028 Leverage REEP to identify and retrofit homes with prioritization on high need and vulnerable communities - 2023-2030 		
			BENEFITS & CONSEQUENCES • Reduce energy demand and carbon pollution, and improve home efficiency transparency and comprehension		
		TIMELINE 2023-2026	 POLICIES, RESOURCES, TOOLS Regional Energy Efficiency Program (REEP) (Potentially the Provincial Retrofit Code) 		
			CONTROL /INFLUENCE: Influence MITIGATION /ADAPTION: M		

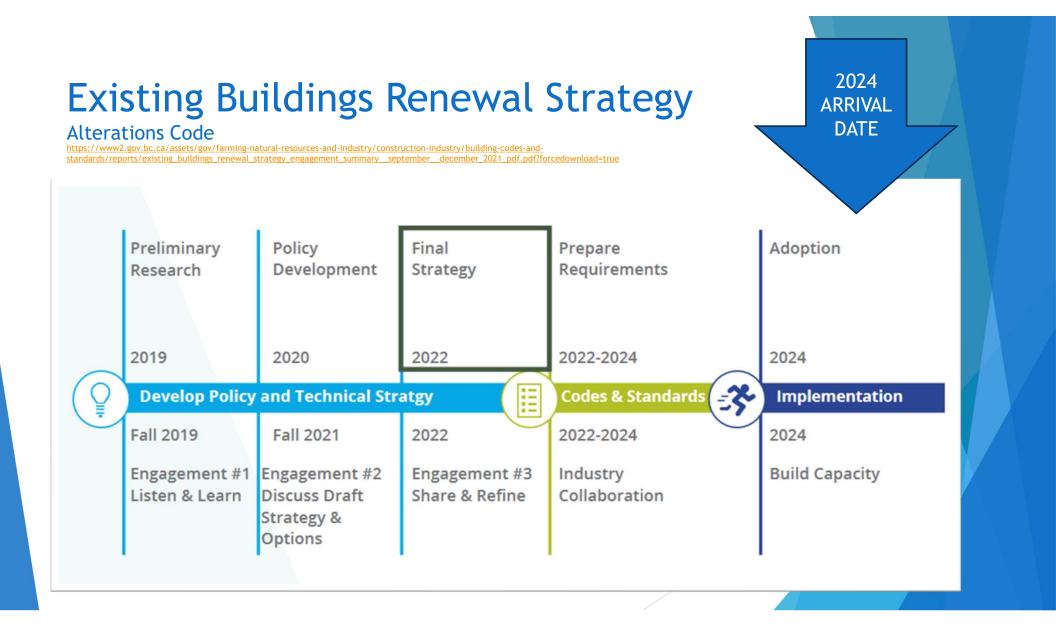


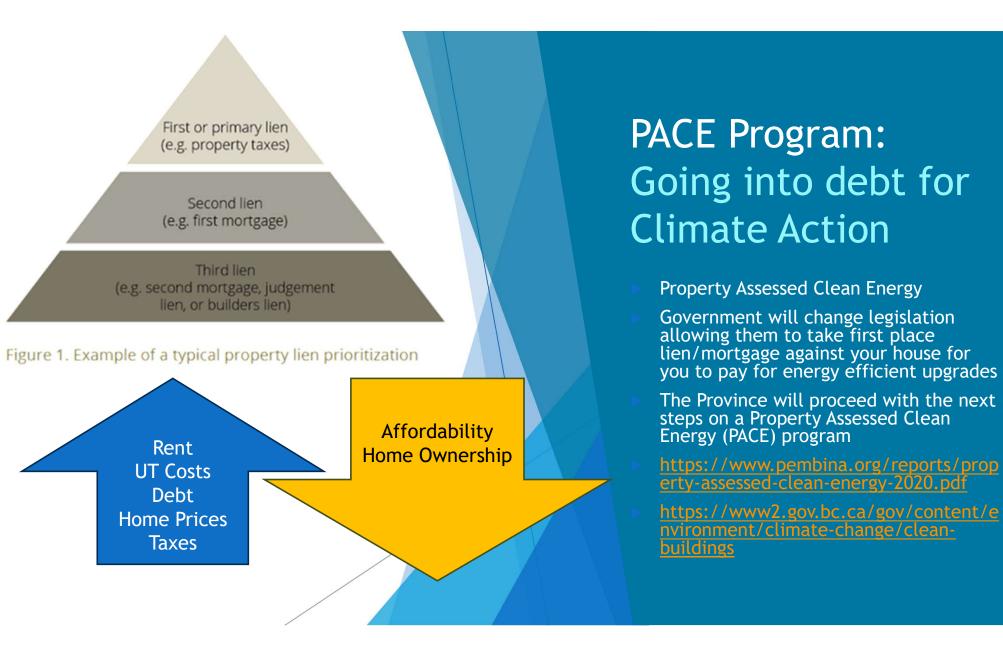
Kootenays Renewable Energy Plan

Retrofitting these buildings via deep energy retrofits or through targeted improvements (such as windows, insulation and heating appliance upgrades) will enable building owners and tenants to save energy and money."

CONTEXT:

You will spend \$100,000 dollars to potentially save \$80-200/month





ZERO-EMISSION VEHICLES ACT [SBC 2019] CHAPTER 29

Assented to May 30, 2019

Contents

Part 1 — Introductory Provisions

- 1 Definitions
- 2 Definition of "supplier"
- 3 Classification of motor vehicles
- 4 Classification of ZEV units
- 5 Application prescribed class of suppliers
- Part 2 Provincial Targets 6 Definition
- 7 Provincial targets
- 8 Provincial targets report



BC is banning petroleum vehicles

- Tecnically, no. Functionally, yes.
- Selling new ICE vehicles is illegal by 2035 (ZEV Act)
- New Law: 90% reduction by 2030
- 25% reduction in KMs for ALL types of vehicles by 2030



https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/transportation-energies/clean-transportation-policies-programs/zero emission-vehicles-act https://cleanbc.gov.bc.ca/

Federal Restrictions





ENIFR Q

Honda Targets 100% EV Sales in North America by 2040, Makes New Commitments to Advances in Environmental and Safety Technology

₿ Cl	BC MENU ~			Q	•
NE	WS		S	ections	•
Polit					
sal	es of gas-p	out plan to owered car	_		
sal 203	es of gas-po 85 rules will effecti	owered can	rs, truck	s by	only
sal 203	es of gas-po 85 rules will effecti soline or diesel Mia Rabson · The	owered can wely end sales of by 2035 e Canadian Press - 2023 10:18 AM PST	vehicles po	owered o	only

West Kootenay Renewable Energy Plan

Will I be forced to replace my car?

It's likely that electric vehicles will become so affordable and available that traditional gasoline cars will become obsolete long before 2050. In some cases, electric cars are already cheaper than gasoline cars when you account for lifetime operating expenses. The Province of BC has set a requirement that all new cars will be zero-emissions vehicles by 2040. In addition, self-driving cars may make 2040. In addition, self-driving cars may make personal vehicles much less useful and cost-effective for most errands. Imagine a regional fleet of shared electric vehicles that would show up at your door on schedule and drop you off at your destination with no parking, storage, or maintenance.

DODT = MaaS

https://westkootenayrenewableenergy.ca/wp-content/uploads/2020/12/West-Kootenay-Renewable-Energy-Plan.pdf

Future Transit Plans

7.2 Mobility as a Service

Mobility as a Service (MaaS) is the transition away from personally owned forms of transportation to mobility options that are purchased as a service. Recent technology improvements have provided consumers options to plan, reserve, and pay for travel using an application on their electronic device. Mobility as a Service applications are capable of combining multiple travel modes into one trip, allowing multi-modal travel options for customers including walking, public transit, car share, bike share, or ride hailing.

- Ride Share / Sharing Economy / Stake Holder Capitalism
- Government and select stakeholders own everything, citizens rent what they need

Creston MMTP

Digital On-Demand Transit

The overlap between times and services of the daytime fixed route and handyDART services indicates the potential to consider combining them through a digital on-demand service. Digital on Demand Transit (DODT) is an IT-enabled private multi-passenger transportation services, using dynamically generated routes, which may expect passengers to make their way to and from common pick-up or drop-off points. Vehicles can range from large SUVs to vans to shuttle buses. DODT has gained popularity in the past few years across the world. Agencies are using this technology in combination with existing fixed route to expand their network and improve customer experience.







What are the transport plans in Kamloops?

- Big Move 2C: Banning full size vehicles from multiple urban blocks
- Big Move 2C: Restricting neighbourhood roads to residents only
- Big Move 3C: Zero Emission Delivery Zones
- Targeting a future with less cars driving less miles

BIG MOVE 2: CAR-LIGHT COMMUNITY



By 2050, 50% of trips in Kamloops are to be by active transportation and transit.

Kelowna CCAP Ambitious Actions

Vehicle KMs Travelled (TAX) Congestion Pricing Regional Transit Fuel Tax

Table 8: Recommended ambitious actions

Action #	Action			
AAı	Advance early endorsement of the Energy Step Code so that the thousands of buildings constructed between now and 2032 (when the Province fully implements the Energy Step Code) incorporate efficiency measures which will have lasting impacts to building performance.			
AA2	Invest more into alternative transportation, prioritizing alternative modes through proximity, connectivity and urban design.	T C		
AA3	Conduct a regional study to determine local feasibility, effectiveness and legislative authority for transportation pricing strategies for vehicle kilometers traveled and/or fuel consumption.	r r t		

f/ Kelowna CCAP

Transportation pricing strategies

Transportation pricing strategies focus on the costs associated with the use of the transportation system in terms of vehicle kilometers traveled and/or fuel consumption. Examples include: a vehicle-kilometer traveled fee, pay-as-you-drive insurance, a motor fuel tax or carbon price, tolls, or congestion pricing.

Congestion pricing refers to dynamic tolls that change in real-time (e.g. tolls that are more expensive during peak-periods and less during offpeak periods) to help manage travel demand.

Research suggests that these types of pricing strategies have the largest potential to reduce GHG emissions within the transportation sector.

Ambitious Actions

Actions that will push the envelope

These actions are ambitious in nature and they will only be adopted after further discussion, therefore their impacts have not been incorporated into the model. Adopting these actions will provide longterm benefits, but the shift from current practice may be too great for implementation at this point of time. If the community wishes to achieve deep GHG reductions, then these actions require careful consideration

Local Examples Area C OCP & Nelson NEXT

Transit

The Regional Board:

- 17. Supports the reduction of the use of private automobiles and encourages the RDCK and member municipalities to investigate initiatives to expand as requested public and shared transit, including the use of buses, car co-operatives and delivery services.
- Establish a 'Low Emissions Zone' AKA a defined area where access by certain types of fossil-fuel vehicles are prohibited
- Decrease the Vehicle Kilometres Travelled by passenger vehicles 8.75% per year from now to 2030— approximately 11 million VKTs per year.

What are the plans in Metro Vancouver?

- ZERO or Low Emission Vehicle Zones
- Emissions Based licensing & parking
- Levies for undesirable vehicles
- 2.3.1 Ban full size vehicles from select streets



Lower speed limits 4 lanes to 2 lanes Pedestrian only Assuming that electricity remains as abundant and affordable as today, electric vehicles will continue to have operating costs of roughly one-third that of comparable gas or diesel vehicles.

This will make it cheaper and more attractive to drive more frequently – which could lead to more traffic and congestion. All personal vehicles – whether powered by electricity or fossil fuels – occupy scarce urban space and are the main culprits behind nearly all traffic fatalities and injuries, especially involving vulnerable road users.

The personal benefits of EVs also accrue to those who can afford them — further exacerbating inequalities.

n Search

Transport 2050 Regional Transportation Strategy

https://www.translink.ca/-/media/translink/documents/plans-and-projects/regional-transportation-strategy/transport 2050/transport_2050_rts.pdf#view=fitH

The goal is to reduce <u>all types</u> of car ownership across Canada

How Will We Measure Success?

Success in achieving greater sustainability on the transportation network will be measured in the following ways:

- Increasing to 30% the number of people using other modes of travel to employment (including carpooling, transit, walking, cycling and other modes) by 2020;
- Increasing transit ridership by 50% (compared to base year of 2008) by 2020; and
- Reducing vehicle ownership to 0.6 vehicles per capita by 2020.

Kamloops

Reduce the overall energy requirements of the transportation system by rapidly shifting as many passenger trips as possible to the **most energy-efficient modes** — walking, rolling, cycling, and transit — in order to **reduce the kilometres driven by vehicles**; accomplishing dramatic shifts in a short period of time will require a combination of regulations, design interventions, and incentives.

MVRD - Transport 2050

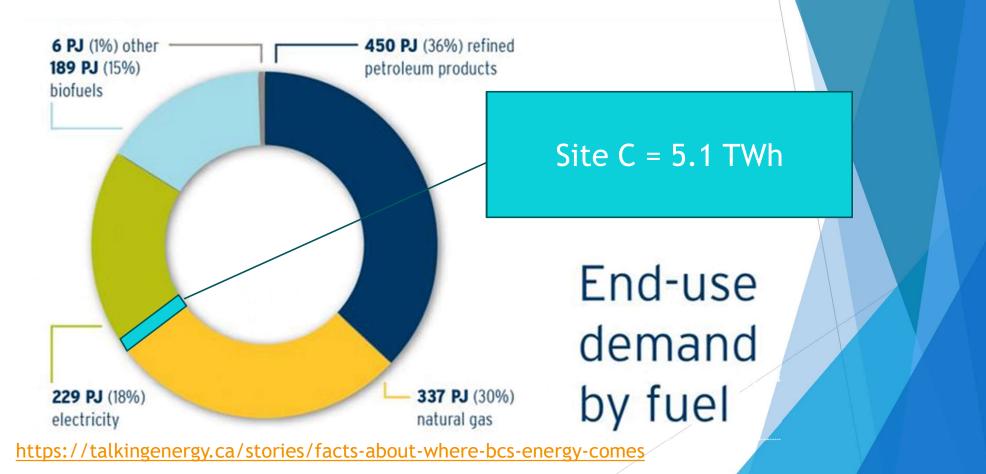


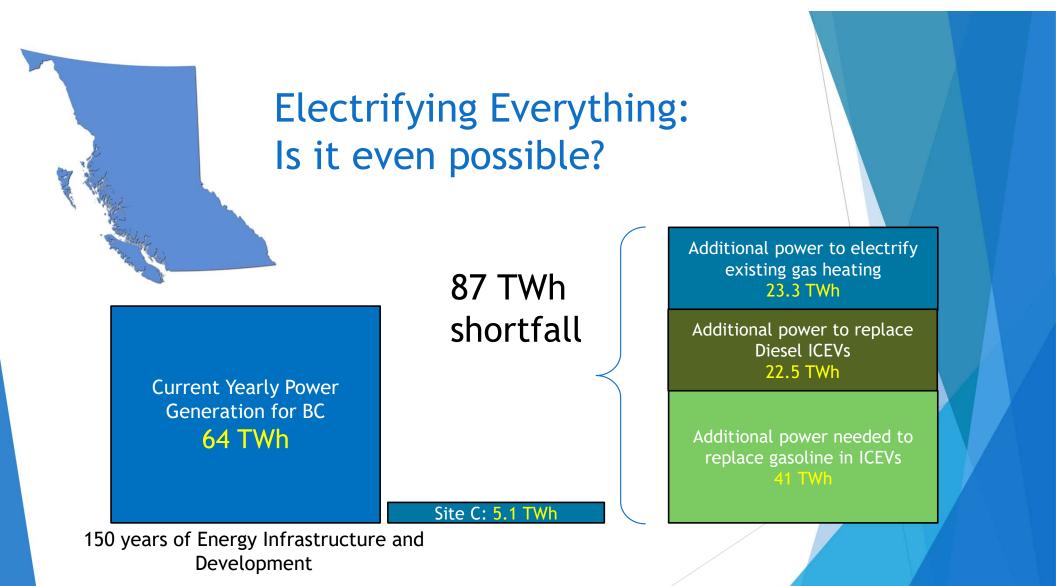
Reduce average vehicle ownership per household by 30% from 2017 levels

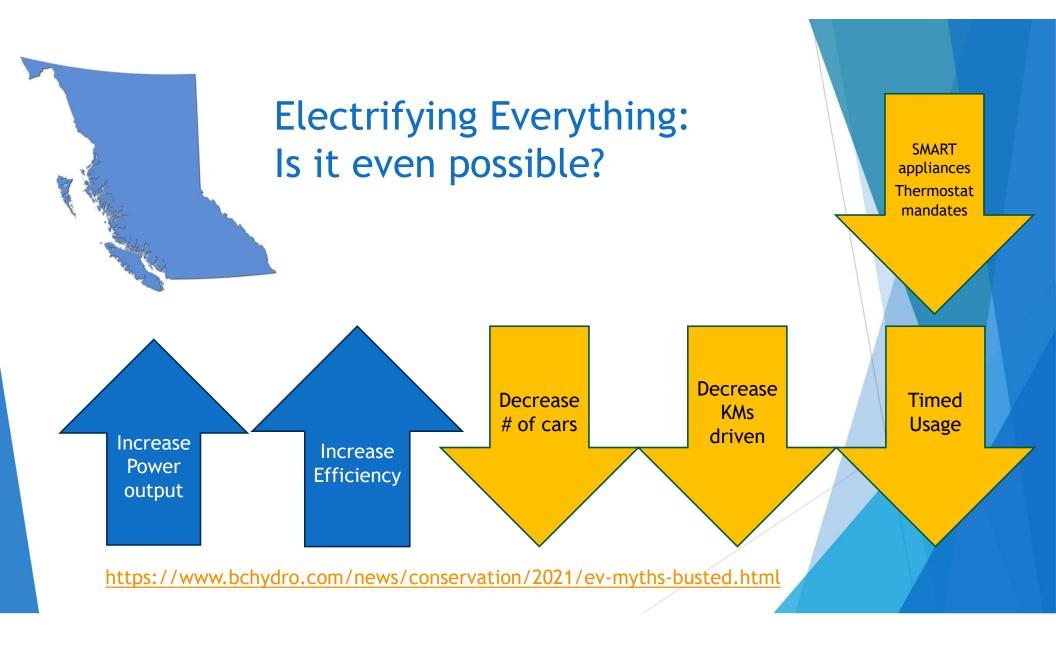
Victoria



Can We Electrify BC?







BC Hydro Coming up Short

Table 5-11

Energy Load Resource Balances After Updated 2021 IRP Planned Demand-Side Measures and Electricity Purchase Agreement Renewals

Surplus / deficit (GWh)	F2027	F2028	F2029	F2030	F2031	F2032	F2033
April 2023 Reference Load Forecast	700	100	-1,000	-2,200	-2,900	-3,100	-3,200
2023 Accelerated electrification load scenario	-1,400	-2,300	-3,400	-5,900	-10,800	-11,600	-12,400
2023 Accelerated electrification with DSM under-delivery scenario	-1,800	-2,900	-4,000	-6,700	-11,800	-12,600	-13,600



2023 IRP UPDATE:

What does BC Hydro say?

We have an energy and capacity surplus BC Hydro is well positioned to serve our customers' province-wide electricity needs for most of the next decade *with additional demand-side measures*, before adding any new clean or renewable energy resources.

demand response technology - the ability to manage demand such as electric vehicle charging or home appliances (e.g., water heaters) by shifting electricity demand out of peak times and into periods when supply is more available

DEMAND SIDE MEASURES

Our assessment is that pursuing more demand-side measures could:

 Increase bills for those not able to take advantage of energy efficiency programs;

 Default customers into opt-out time-varying rates that are not well-suited to them; and

 Increase the risk to ratepayers of demand-side measures under-delivering on their expected savings, leading BC Hydro to pursue quicker but more expensive options in response.

Most effective Demand Side Measure is increasing the price \$\$\$

https://www.bchydro.com/toolbar/about/strategies-plans-regulatory/supply-operations/long-term-electricity-planning/clean-power-2040/integrated-resource-plan.html

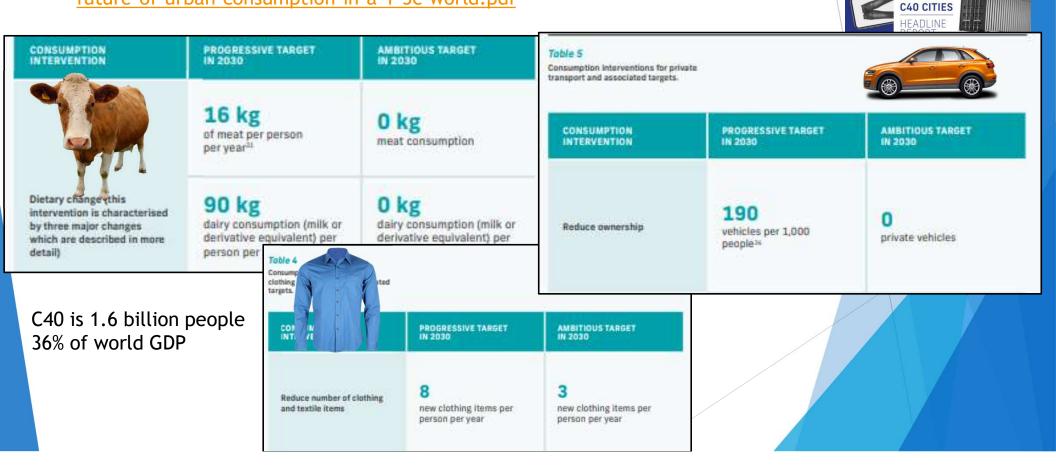
Consumption & the Zero Waste Circular Economy

 Reduce, Recycle, Reuse
 Compact garbage
 Consume Less
 ZERO WASTE APPROACH FOR VANCOUVER
 AVOID REDUCE
 REUSE RECYCLE & ENERGY RECOVERY*
 DISPOSE

Incoming Consumption Interventions

C40 Advocate for Consumption Interventions

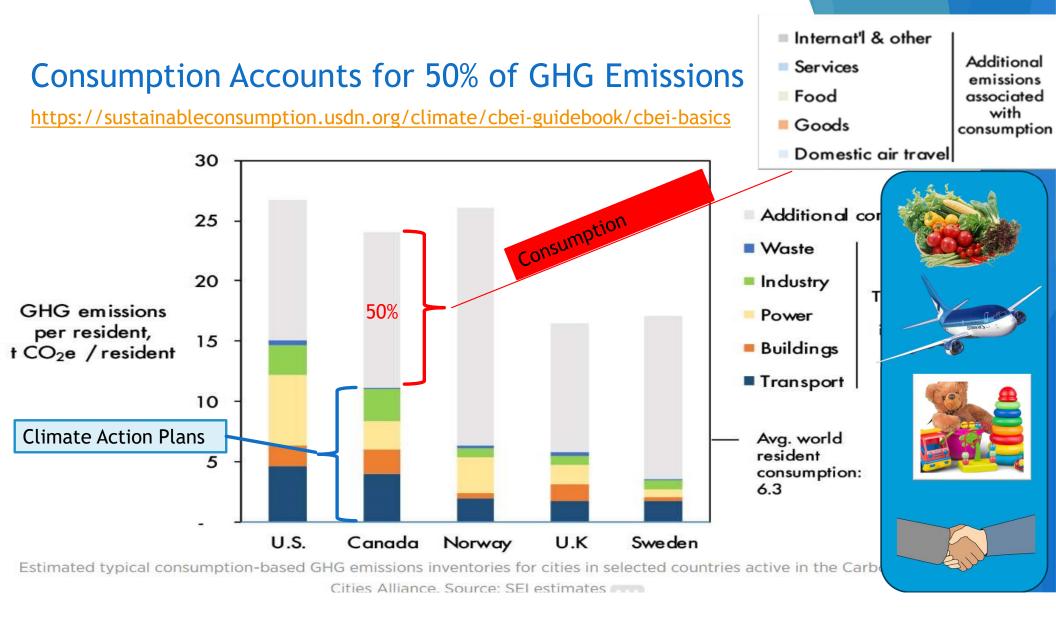
https://www.arup.com/-/media/arup/files/publications/c/arup-c40-thefuture-of-urban-consumption-in-a-1-5c-world.pdf



THE FUTURE OF URBAN

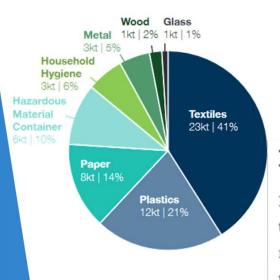
IN A 1.5°C WORLD

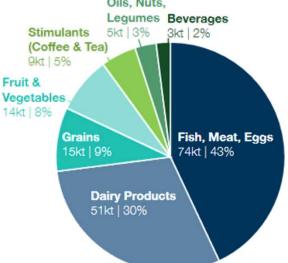
CONSUMPTION



Evidence of Consumption Interventions coming in BC? Oils, Nuts.

- Step 1: Inventory emissions
- Step 2: Intervene





Eco-City Project

In 2017, the City of Victoria piloted the use of a new tool to create a consumption-based inventory. The results revealed a doubling of GHGs when taking into account the embodied emissions from the products and goods

Saanich CCAP

Using a Consumption-Based GHG Inventory, our emissions nearly double, as it includes the GHG emissions associated with producing, manufacturing, transporting and disposing of the food and materials we buy and throw away, whether they are produced locally or anywhere else in the world.

consumed by Victorians. The results of Victoria's consumption-based inventory shows that the choices we make as individuals in what we consume have a significant role to play in reducing our community's GHG emissions.

From Saanich and Victoria Climate Action Plans

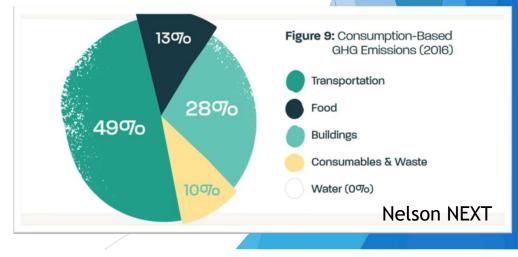
RDCK Consumption Interventions Coming?



Big Move #5: Supporting Actions

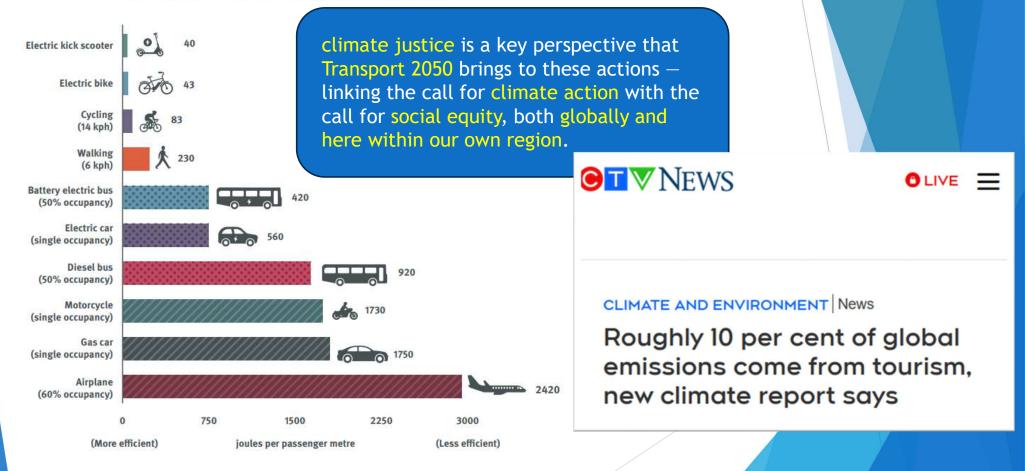
"set the stage for future work on community, place-based, and consumption-based energy and emissions."

https://westkootenayrenewableenergy.ca/the-big-moves/supporting-actions/



Travel "interventions" Incoming?

Figure 11: Energy Efficiency by Mode of Transportation



Saving the world = Tracking Plastic



Measuring Success

Metrics

Success towards the primary objective will be measured by the annual reduction in tonnes of solid waste from Vancouver disposed to landfill and incinerator, with a 2040 target of zero tonnes disposed.

		Q	*
NEWS	Sect	ions	•

Politics

Here's how a Canada-wide plastics registry could save you money

Critics call plan impractical, government overreach



David Thurton · CBC News · Posted: Jan 06, 2024 1:00 AM PST | Last Updated: January 8

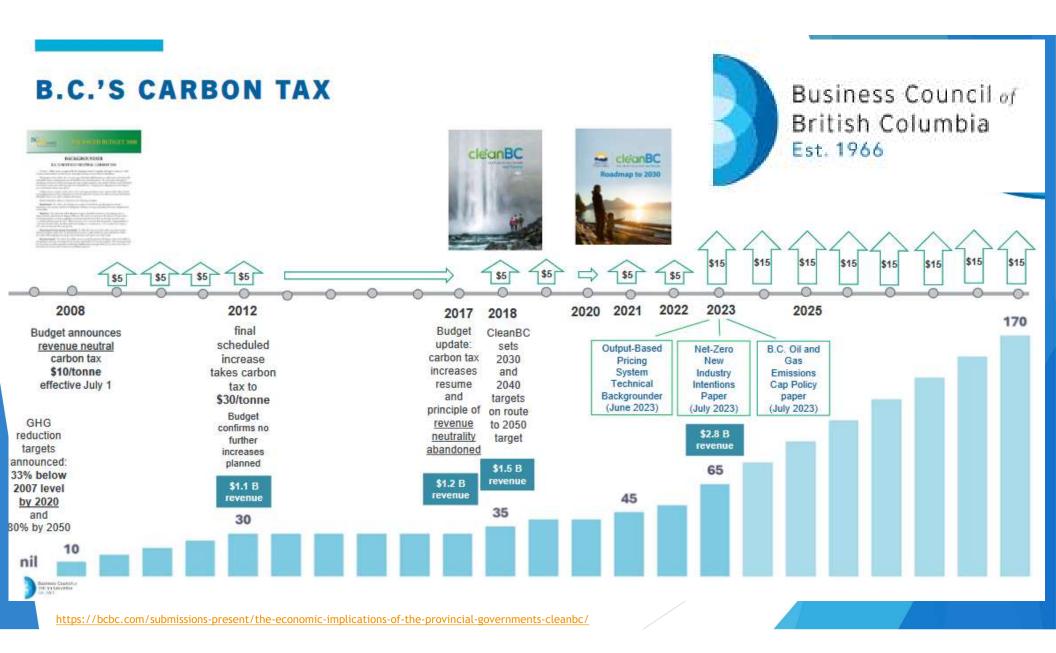


GOVERNMENT FINANCES

August 9, 2023

Government's own modelling shows its CleanBC plan will dampen economic growth and set B.C.'s prosperity back more than a decade

According to the NDP government's own modelling, implementing the CleanBC policy agenda...



LITERALLY A POVERTY PLAN

ECONOMIC MODELLING RESULTS REFERENCE SCENARIO AND CLEANBC SCENARIO

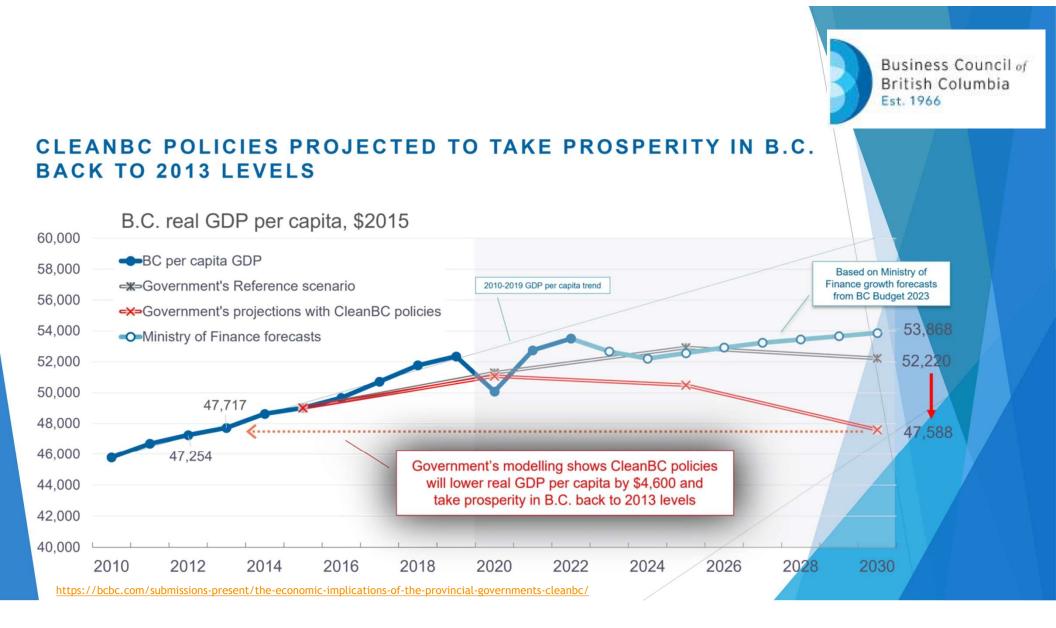
Business Council of British Columbia Est. 1966

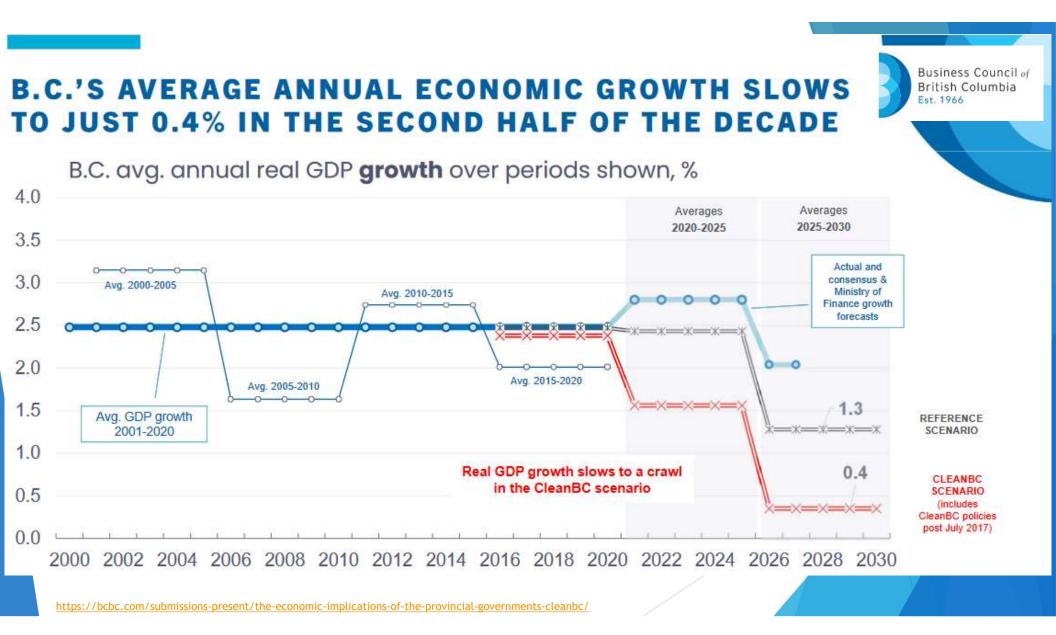
FOSSIL FUEL INDUSTRY 8.4 8.9 15.0 16. Coal Production 1.2 1.6 1.7 1.0	Unit: billion 2015 \$	2015	2010	2025	2030
Coal Production 1.2 1.6 1.7 1.	TOTAL	233.8	264.1	297.8	317.2
	FOSSIL FUEL INDUSTRY	8.4	8.9	15.0	10.5
	Coal Production	1.2	1.6	1.7	1.8
Upstream Oil and Ga 5.4 4.8 9.8 10.	Upstream Oil and Ga	5.4	4.8	9.8	10.0

Unit: billion 2015 \$	2015	2020	2025	2030)
TOTAL ^{1,3}	233.8	263.0	284.1	289.1	1
FOSSIL FUEL INDUSTRY	8.4	8.8	14.6	13.0	-
Coal Production	1.2	1.6	1.6	1.5	
Upstream Oil and Gas	5.4	4.7	9.3	8.5	



https://bcbc.com/submissions-present/the-economic-implications-of-the-provincial-governments-cleanbc/







Smart City Infrastructure

- Smart Meters
- Smart Thermostats
- ► 5G
- LED light fixtures
- Cameras, Radar, sound
- Artificial Intelligence (Intelligent City)

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What is a Smart City?





Mckinsey Global Institute on Smart Cities

https://www.mckinsey.com/~/media/mckinsey/business%20functions/operations/our%20insights/smart%20cities%20digital%20solutions%20for%20a%20more%20livable%20future /mgi-smart-cities-full-report.pdf

Our research looked at dozens of smart applications that will be relevant for cities through 2025.

Security

Predictive policing

Real-time crime mapping

Gunshot detection

Smart surveillance

Emergency response optimization

Body-worn cameras

Disaster early-warning systems

Personal alert applications

Home security systems

Data-driven building inspections

Crowd management

Healthcare Telemedicine Remote patient monitoring

Lifestyle wearables

First aid alerts

Real-time air quality information

Infectious disease surveillance

Data-based public health interventions: Maternal and child health

Data-based public health interventions: Sanitation and hygiene

Online care search and scheduling

Integrated patient flow management systems

Mobility

Real-time public transit information

Digital public transit payment

Autonomous vehicles

Predictive maintenance of transportation infrastructure

Intelligent traffic signals

Congestion pricing

Demand-based microtransit

Smart parking E-hailing (private and pooled)

Car sharing

Bike sharing

Integrated multimodal information

Real-time road navigation

Parcel load pooling

Smart parcel lockers

Smart City = Tracking & Control to achieve Sustainable Development

Energy

Building automation systems Home energy automation systems Home energy consumption

tracking

Smart streetlights

Dynamic electricity pricing

Distribution automation systems

Water Water consumption tracking

Leakage detection and control Smart irrigation

Water quality monitoring

Digital tracking and payment for waste disposal

Optimization of waste collection routes

Waste

70% of the Sustainable Development Goals can be advanced

5G Repeaters

 Every 100m in your residential neighbourhoods

5G Towers Macro

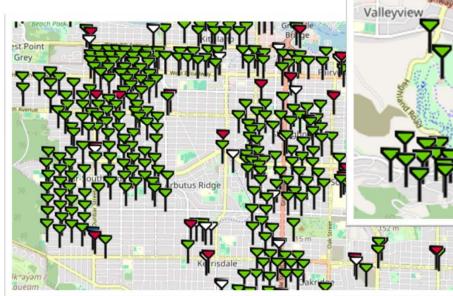
\ Micro

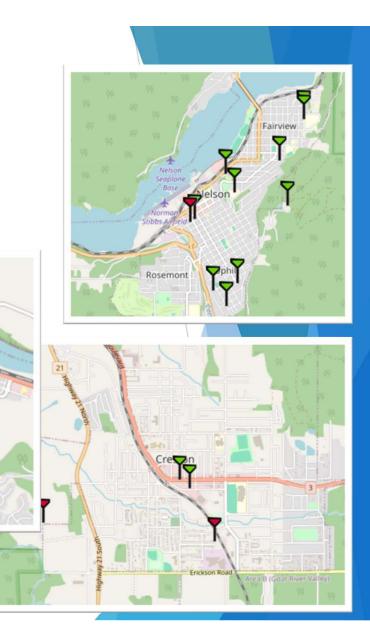
Antenna Main Power Control Module Ground

How to identify 5G Towers in your neighbourhood

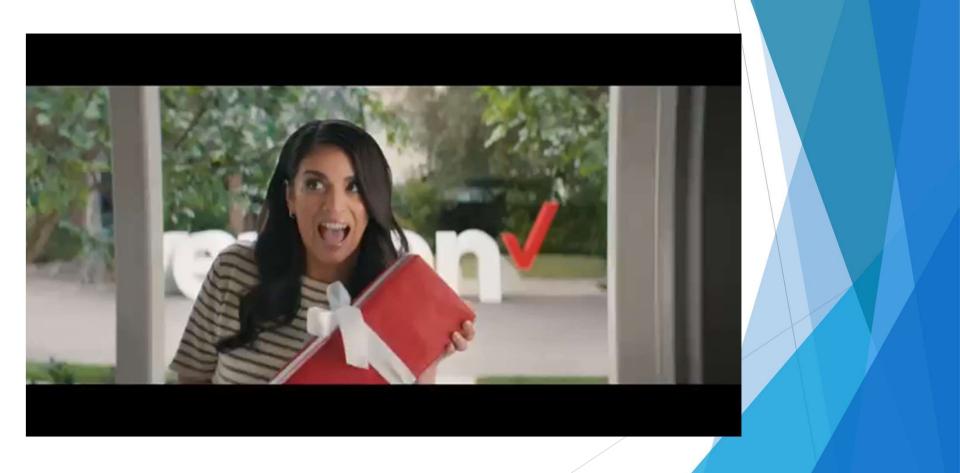
wepemc

- https://www.ertyu.org/steven_nikkel/cancellsites.html
- Check for cell towers in your neighbourhood
- Federally Regulated
- Safety Code 6





Trend: Cut the Cord



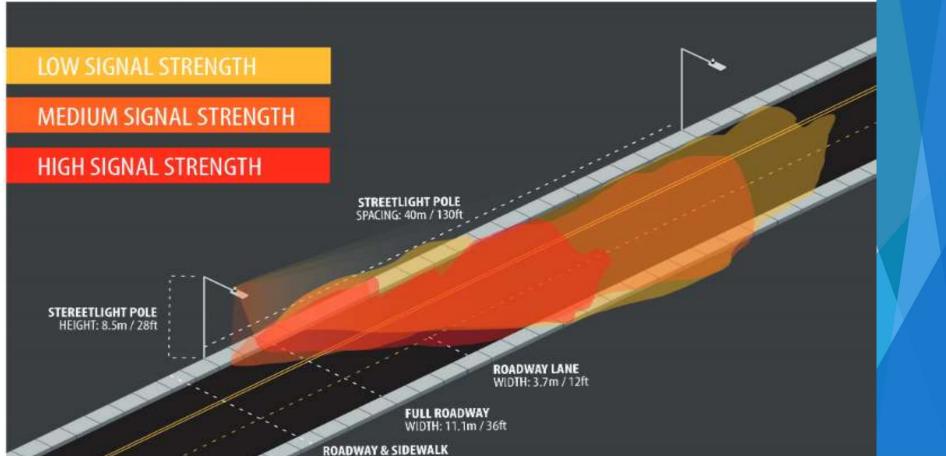
Street Lights / Traffic Equipment





In Saanich (Victoria)

Speed Monitoring RADAR SIGNAL STRENGTH





Multiple Sensors, ANY* Streetlight

► Watch this video:

https://vimeo.com/637510804

- https://www.liveablecities.com/
- Any brand sensor can be installed on any brand streetlight with same plug type

Liveable Cities



BC Transit UMO + MaaS

Visit 🖑 UMO.

- UMO Ride share app, tracks users locations, times etc
- "Mulit-Modal" Transit Plan regional plan calls for single app to combine MaaS providers and BC Transit called DODT
- UMO is a joint venture between BC Transit and CUBIC Corporation
- Compass Pass is managed by CUBIC Corporation

https://www.bctransit.com/umo

Creston MMTP

Digital On-Demand Transit

The overlap between times and services of the daytime fixed route and handyDART services indicates the potential to consider combining them through a digital on-demand service. Digital on Demand Transit (DODT) is an IT-enabled private multi-passenger transportation services, using dynamically generated routes, which may expect passengers to make their way to and from common pick-up or drop-off points. Vehicles can range from large SUVs to vans to shuttle buses. DODT has gained popularity in the past few years across the world. Agencies are using this technology in combination with existing fixed route to expand their network and improve customer experience.





CUBIC







BC Transit Modernizes Victoria's Fare Payment System with Cubic's Umo Platform https://www.cubic.com

What is CUBIC Corporation?

2 Main Businesses Transportation and......



Trusted Capabilities to Accelerate the NextAdvantage

CUBIC

~

Indefinite Delivery/Indefinite Quantity (IDIQ) Vehicles

U.S. Army Capabilities Integration Center (ARCIC) 🗸

U.S. Army Combined Arms Center (CAC) Analytical Support

Enhanced Army Global Logistics Enterprise (EAGLE)

Fielded Training Systems Support (FTSS) III

Maneuver Center of Excellence (MCoE) Training and Support Services for Fort Benning, GA







MVRD Transport 2050 / Track & Trace

https://www.translink.ca/-/media/translink/documents/plans-and-projects/regional-transportation-strategy/transport-2050/transport_2050_rts.pdf#view=fitH

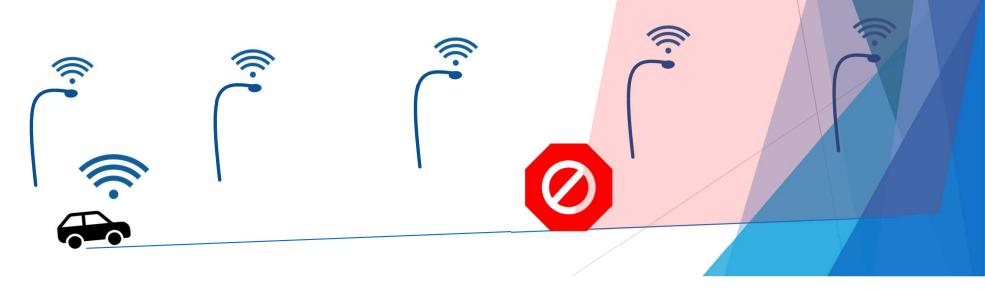
2.3.4. Establish a comprehensive and secure database of urban mobility data through:

- Ensuring a regionally consistent approach to the deployment, operation, and maintenance of real-time sensors across the transportation network, including establishing data standards and communications protocols for interoperability.
- b. Collecting urban mobility data with real-time sensors and GPS devices.
- c. Storing collected information in two key databases: one for all non-personal and de-identified information that is open and accessible to third parties via an API, and one that includes private data that is restricted to a small number of public officials with high security clearance.
 - 6.7.3. Establish a regional **Transport System Manager** function with the ability to license/permit a broad range of mobility service providers for operation in the region. A regional approach is intended to provide a simplified one-stop shop for industry; prevent a patchwork of local regulations; maintain a level playing field for open, fair competition; establish consistency in requirements across mobility industry sectors (such as data requirements); and support

CONTEXT: Could this could be abused?

During another lockdown

- If you travel outside of your zone you could be fined (UK ULEV ZONE)
- If you travel too many kms you could be fined
- All of your vehicle movements can be recorded and monitored in a data base
- EVs can be set with boundaries where they turn off or stop if you go outside of your area.
- MaaS vehicles are all deactivated by government mandate



CSIS Warns Against Smart Cities

- Unauthorized access to Utilities
- All utilities remotely controlled (denial of service)
- Foreign enemies can attack city infrastructure with computer
- Tracks and traces everything citizens does
- CSIS Recommendations to city Councils:
 - Engage citizens early to ensure awareness and understanding of the privacy and security implications to facilitate meaningful public consultation.
 - Be transparent with citizens about the data collected in smart cities and the ways it is used and handled, where it is stored, and how it is protected.
 - Do your due diligence. Smart city technology and software vendors, and their supply chains, should be assessed very carefully to ensure that data access, storage, transfer, and use will take place in a manner and location that protects the safety, security and privacy of Canadians.
 - https://www.ctvnews.ca/politics/csis-warns-smart-city-technology-can-open-door-to-attacks-foreign-interference-1.6305755
 - https://www.canada.ca/en/security-intelligence-service/corporate/publications/smart-cities-national-security/smart-cities-national-securitylist.html



POLITICS News

CSIS warns 'smart city' technolog can open door to attacks, foreign interference



Why is the council doing this?

- Council are good people who are trying to do their job
- Following their strategic plan
- Strategic plan, OCP & Plans, developed based on Provincial government plans
- Provincial government makes changes based on Federal government
- Federal government made changes based on Paris Accord, Sustainable Development Goals, Agenda 21

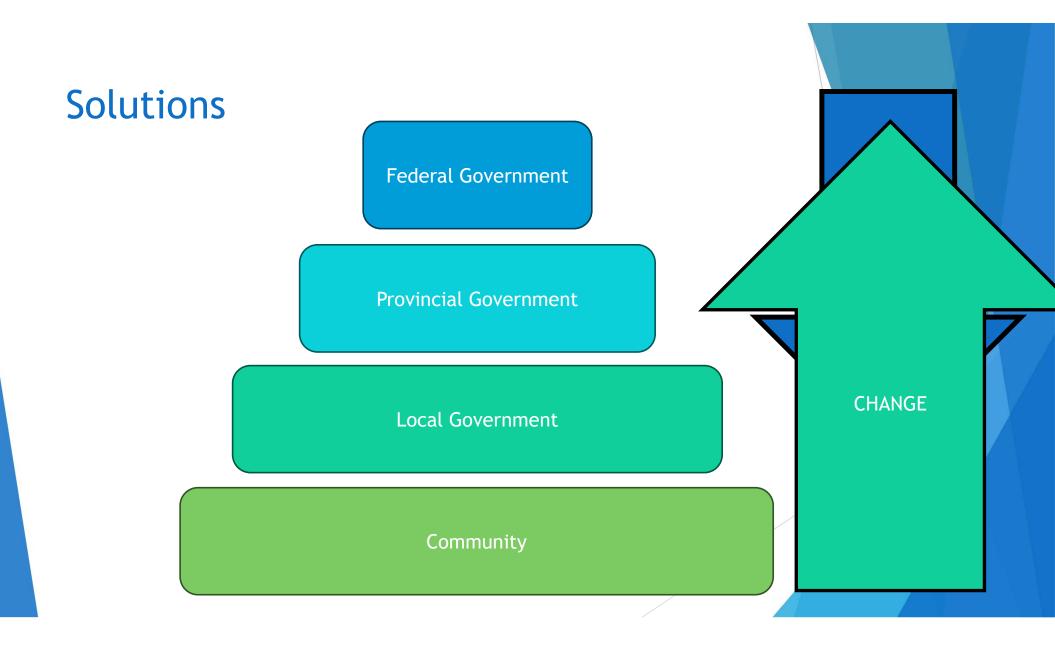


https://www.mapleridge.ca/2369/Council-Strategic-Plan

Why is the council doing this?

- \$\$\$ Sustainability is a source of funding for the city
- > Everyone is doing it
- Good media coverage
- There is no conspiracy to take your rights away
 - Likely side effect of the current policies because there are no safeguards & no context







Solutions

- Organize & Associate
- Do what other groups are doing
- Build relationships with government Stop looking from the outside in, get inside
- Build relationships with media
- Build relationships with community



Solutions

TARGET THE OCP

 OCP only covers sustainable development, doesn't use a "lens" of individual rights

PUT IN SAFEGUARDS:

"Where practical, effective, economically feasible and agreed upon by the community"

- "The city recognizes the rights of citizens to privacy, mobility, property ownership Etc"
- Vote in councilors that understand the issues and use a Kootneys First ideology
- Educate and or vote in new MLAs

What we did in Kamloops <u>https://www.kamloopscsc.org/</u>



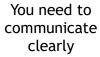
Keep Government Local Common Sense Climate Policy

Freedom Movement Fails at Communicating





Pick single issue or issues and focus on those

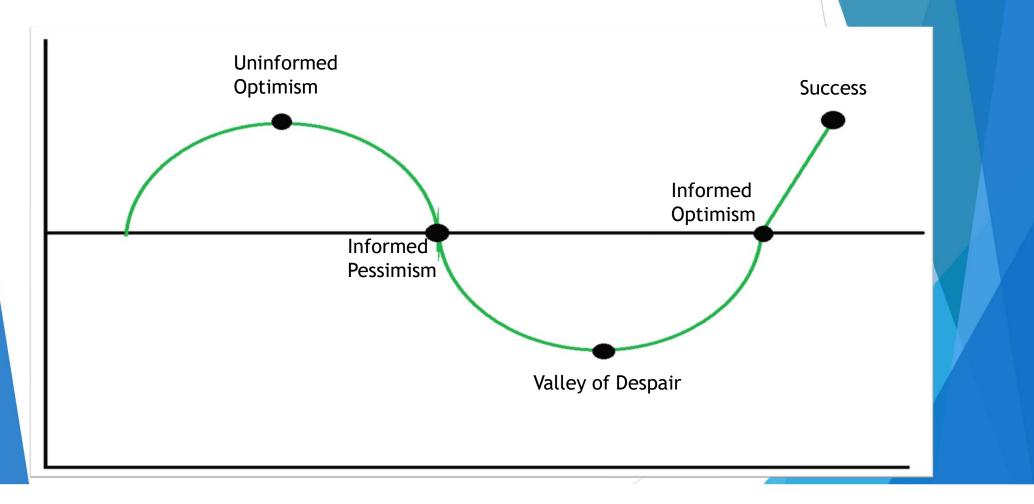




Avoid the freedom movement circus tent of ideas



Rome Wasn't Built in a Day



SUMMARY

What I'm <u>NOT</u> Saying
15 minute development concept is bad
Mixed use development is bad
Offering active transport options is bad
Technology is necessarily bad
Retrofitting is bad

Summary

What I AM Saying

- Concentration of transport data and control in one place is a problem, it must be developed with privacy and freedom in a distributed way
- Forcing use of active transport and limiting the ownership of mobility is a problem, we must support BOTH
- Unrestricted rollout of technology without consideration for privacy and freedom is a problem, we must have guardrails
- Retrofitting by force will put homeowners into debt, let the market deal with it

Summary

What I AM Saying

- Collective Rights must be defined clearly with guardrails to stop abuses (even well meaning)
- Individual Rights must be considered at the LOCAL LEVEL
- Sustainable Development is more than the environment, it is an economic, social, philosophical, political system designed to restructure our society and economy

Search Words in Documents

- Reduce, Restrict, Decrease
- Traffic Calming
- Inventory, consumption based inventory
- Emission
- Growth Boundary
- Urban Densification
- Mixed-use
- Compact neighbourhoods
- Complete Streets, Complete Neighbourhoods
- Thin Streets aka diet streets

- MaaS Movement as a Service
 - Ride Share
 - Shared mobility
 - Mobility as a service
- Target Zero
- Climate Action
- Car light
- Future mobility, future transport plans
- Inventory, monitor, intervention
- Consumption



ROSA KOIRE

Recommended Reading

- https://www.behindthegreenmask.com/
- Rosa Koire Behind the Green Mask