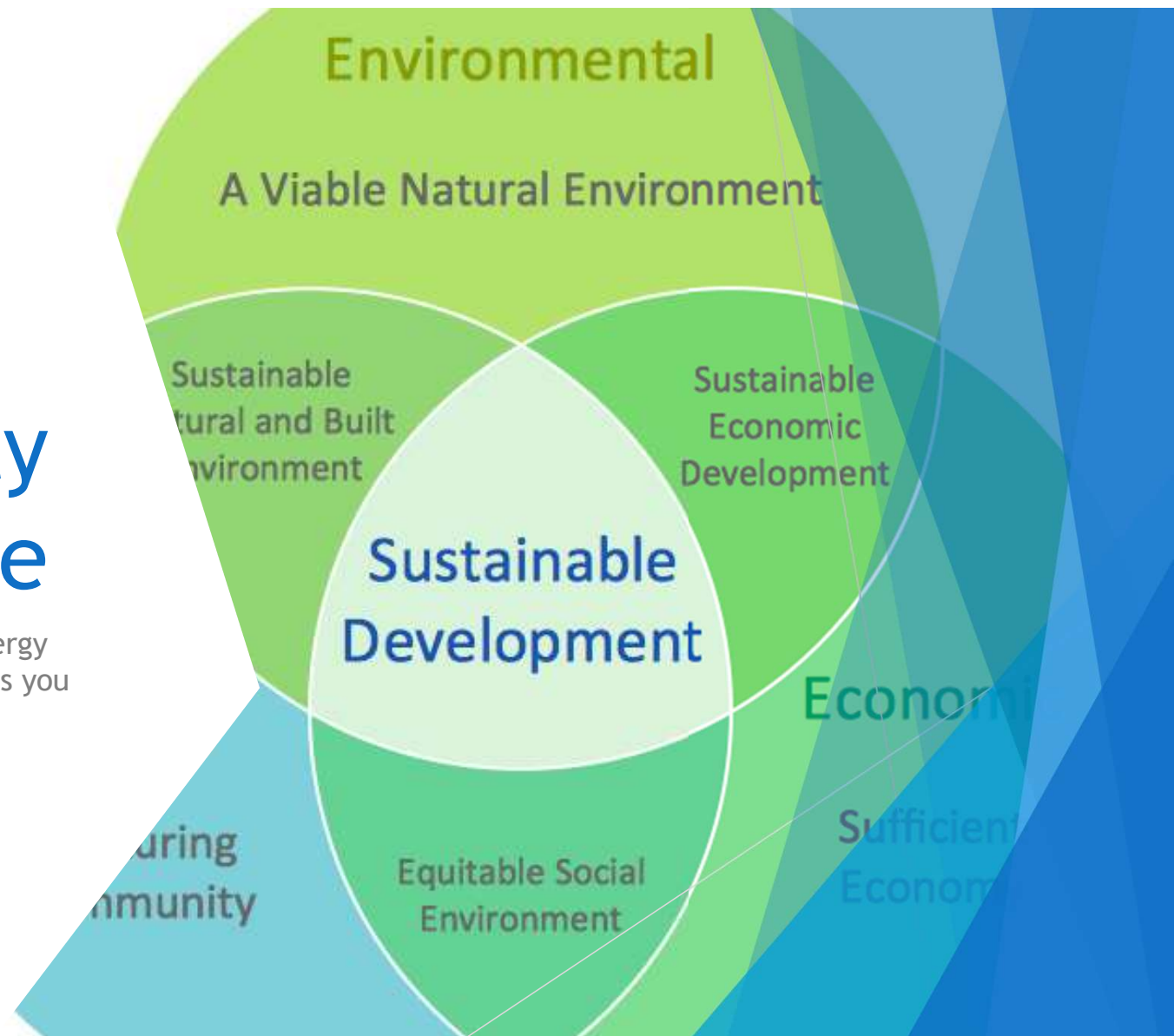


Sustainability Deep Dive

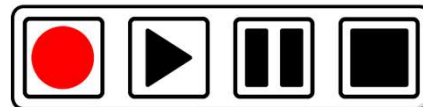
Housing, Emissions, Retrofits & Energy
How sustainable development affects you





Who am I

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



7 Sections

WHAT IS SUSTAINABLE DEVELOPMENT?

HOUSING & CO2

ALTERATIONS CODE

PACE PROGRAM

BC HYDRO

CLEAN BC ECONOMIC FORECAST

SOLUTIONS

NUANCE ALERT!

- ▶ Complicated and segmented ideas
 - ▶ There is a reason for everything BUT...
 - ▶ ***We must add context***
 - ▶ Some things are good
 - ▶ Some things are bad
-
- ▶ “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 harmony, 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>



1972
UNCHE



1976
HABITAT I



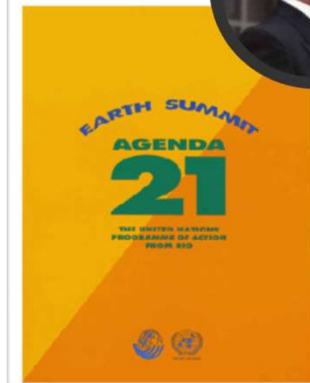
1987
Our Common
Future



1990
ICLEI
Created



1991
BC Round Table



1992
Earth Summit
UNCED



“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

Kamloops This Week, April 1992

2B KAMLOOPS THIS WEEK Wednesday, April 29, 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.



Fly the flag 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 we 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.

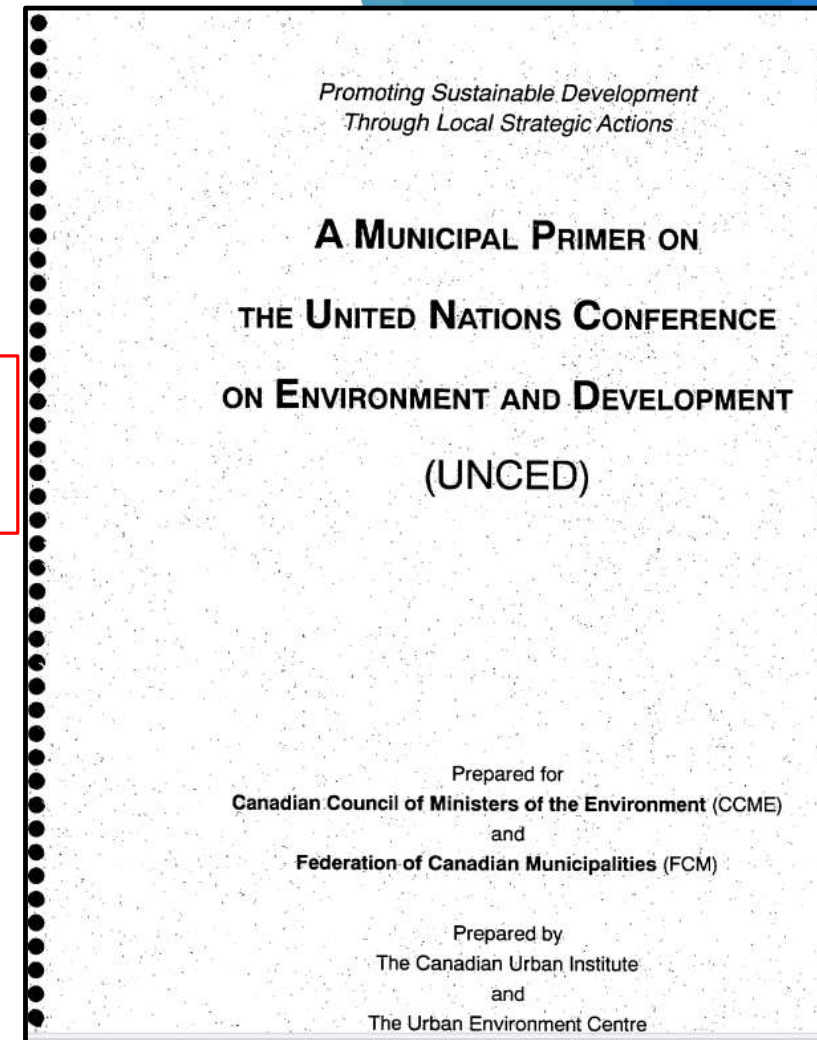
The summit will bring together more than 161 world leaders in the biggest global environment conference ever. The recommendations that come from that meeting - which are being called Agenda 21 - will hopefully be a blueprint for global sustainable development which will extend into the 21st Century.

The Municipal Primer (1994)

Agenda 21

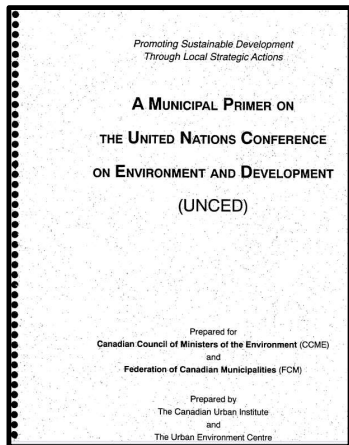
Agenda 21 recognizes that unsustainable development includes suburban sprawl, continued dependence on the private automobile, and residential development which favors single detached homes.

“a comprehensive blueprint for global actions to affect the transition to sustainable development”



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

The Municipal Primer (1994) - New Doctrines



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 it.*
- *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.



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/>

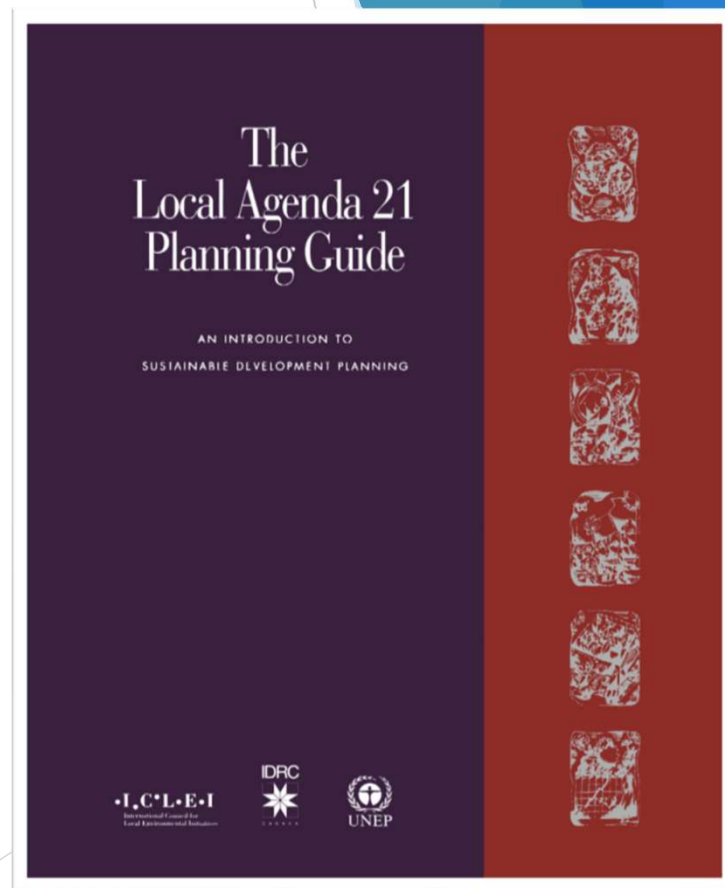
“Sustainable development is a program of action for local and global economic reform—a program that has yet to be fully defined.”



Canada



Canadian
Contact:



ICLEI Founding Document (1990)



In 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

A New Direction in Global Environmental Policy Making

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 strengthening independent efforts to protect the global



<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



Government
of Canada

What's the legal definition?

Basic Principle

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

(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
- ▶ Air conditioning
- ▶ Appliances
- ▶ Eating meat
- ▶ Suburban homes
- ▶ Fossil fuels
- ▶ Rural living
- ▶ Farming
- ▶ Fertilizer
- ▶ Flying



Modern Sustainable Development

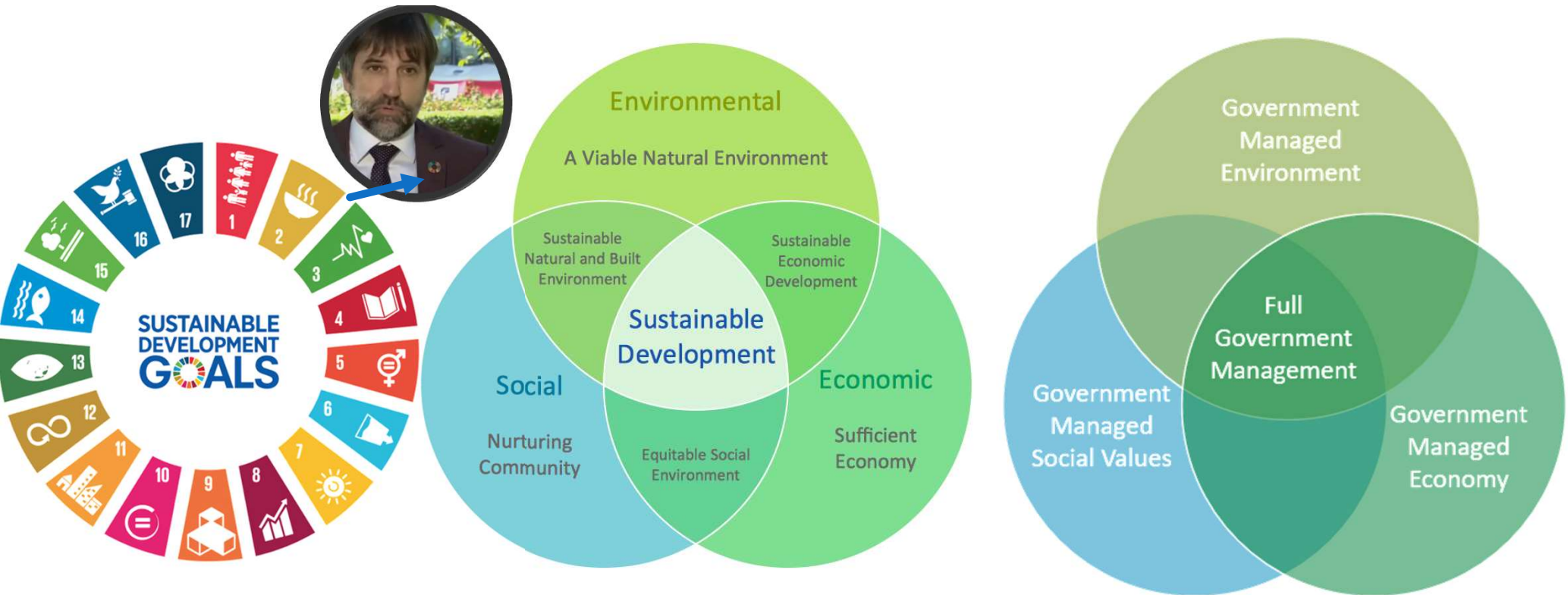
- ▶ UN Sustainable Development Goals
 - ▶ 17 Goals
 - ▶ Agreement with 190+ Countries
 - ▶ **Integrated management and reporting system** to advance policy goals on poverty, hunger, health, resources, energy, water, equity, gender, education, economy etc...



<https://sdgs.un.org/goals>



United Nations



What SD Means in Practice

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

Will SD Solve Climate Change?

► China, India, & developing world are driving the bus

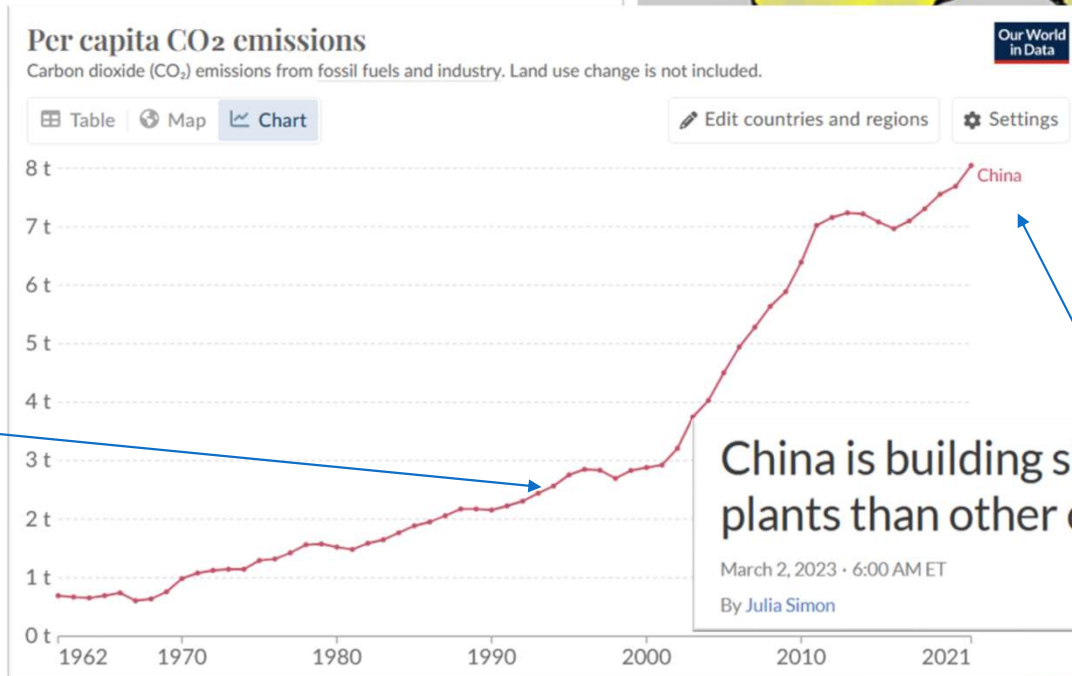
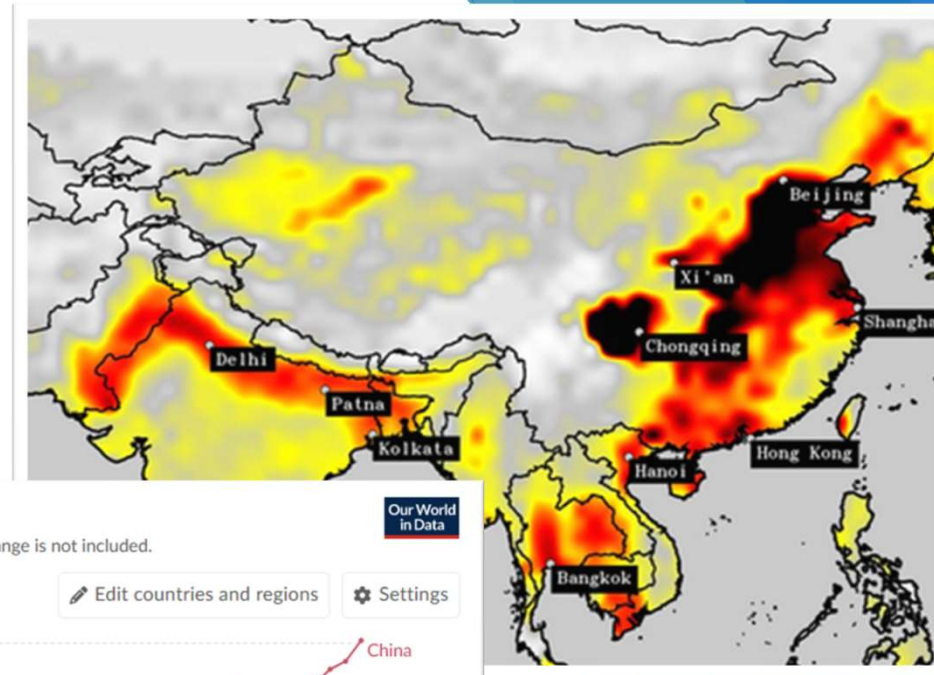
► 1994:

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.

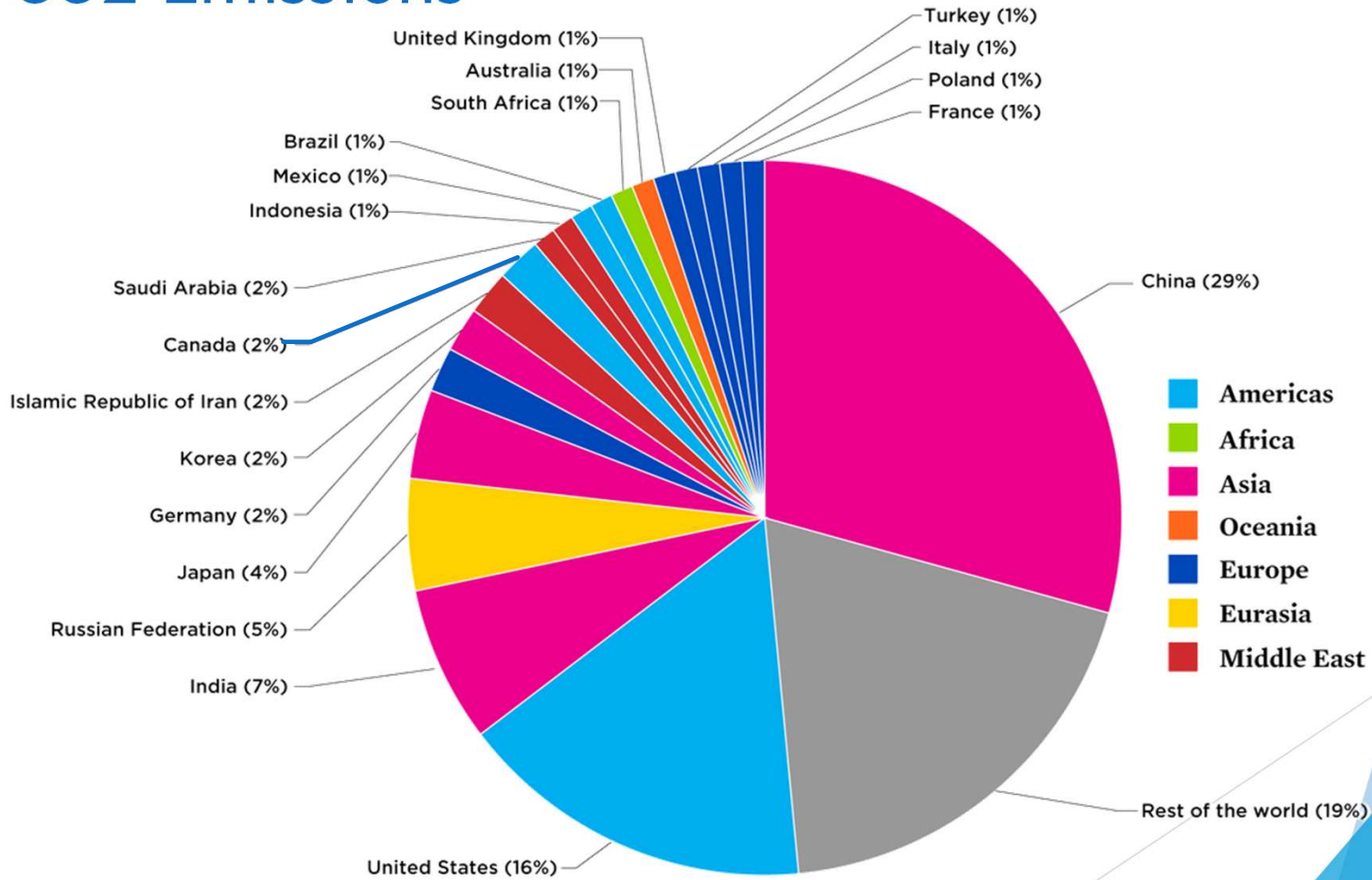


China is building six times more new coal plants than other countries, report finds

March 2, 2023 · 6:00 AM ET

By Julia Simon

CO2 Emissions



What is Climate Action

- ▶ Goal#13
- ▶ Generally linked to reducing CO2
- ▶ 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/>



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

Paris Agreement

- ▶ Canada signed a legally binding treaty under the UNFCCC in 2015

5 Year
Cycles

How does the Paris Agreement work?



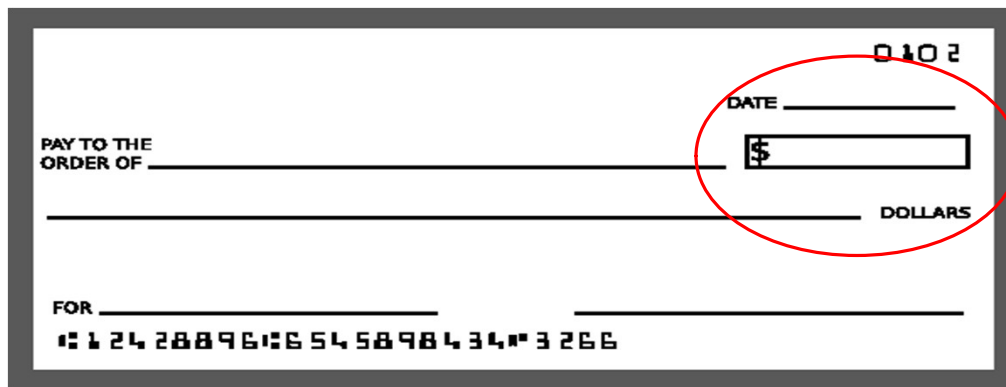
Implementation of the Paris Agreement requires economic and social transformation, based on the best available science. The Paris Agreement works on a five-year cycle of increasingly ambitious climate action -- or, ratcheting up -- carried out by countries. Since 2020, countries have been submitting 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.

To limit global warming to 1.5°C, greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030.

Collective Rights Vs. Individual Rights

- ▶ Individual rights are defined
- ▶ Collective Rights are undefined with no checks and balances.
- ▶ Accepting we must act for collective rights without any guardrails means writing a blank check

<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

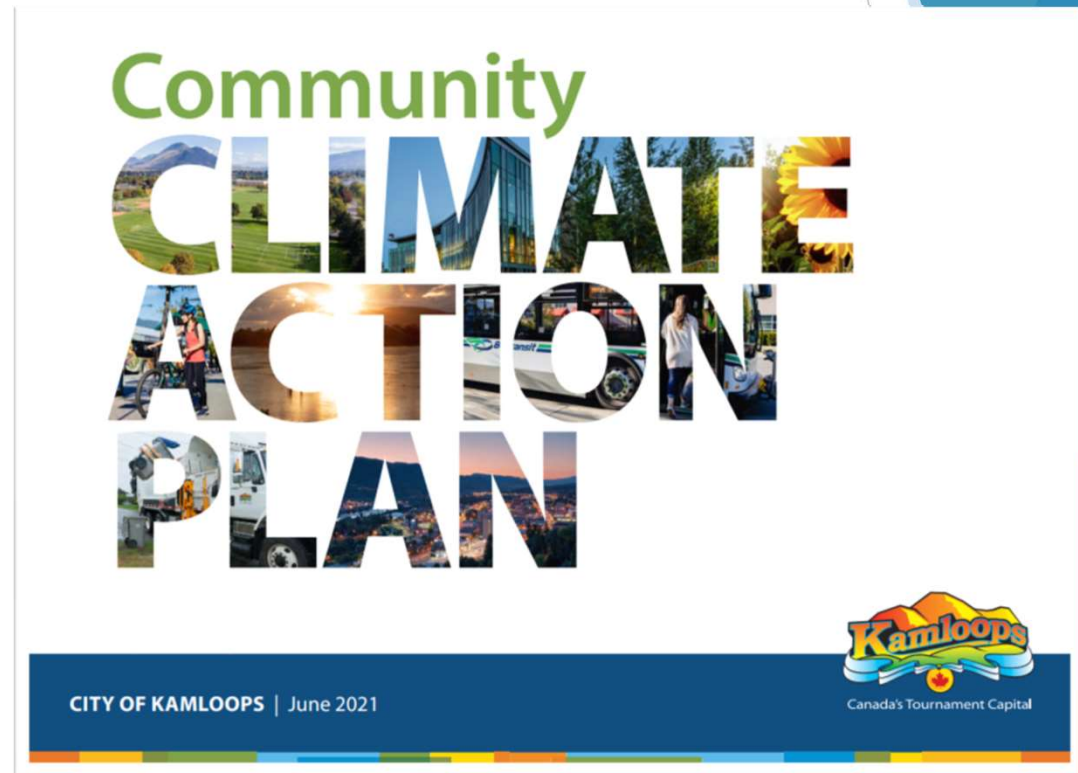
- ✓ Agenda 21 = Sustainable Dev.
- ✓ Everything we do must be “sustainable” “because climate”
- ✓ Philosophy: Collective Rights > Individual Rights, Think Globally Act Locally
- ✓ Sustainable development cannot be defined, is always changing
- ✓ New legal & legislative doctrines: No Proof Necessary



Sustainable Development Recap

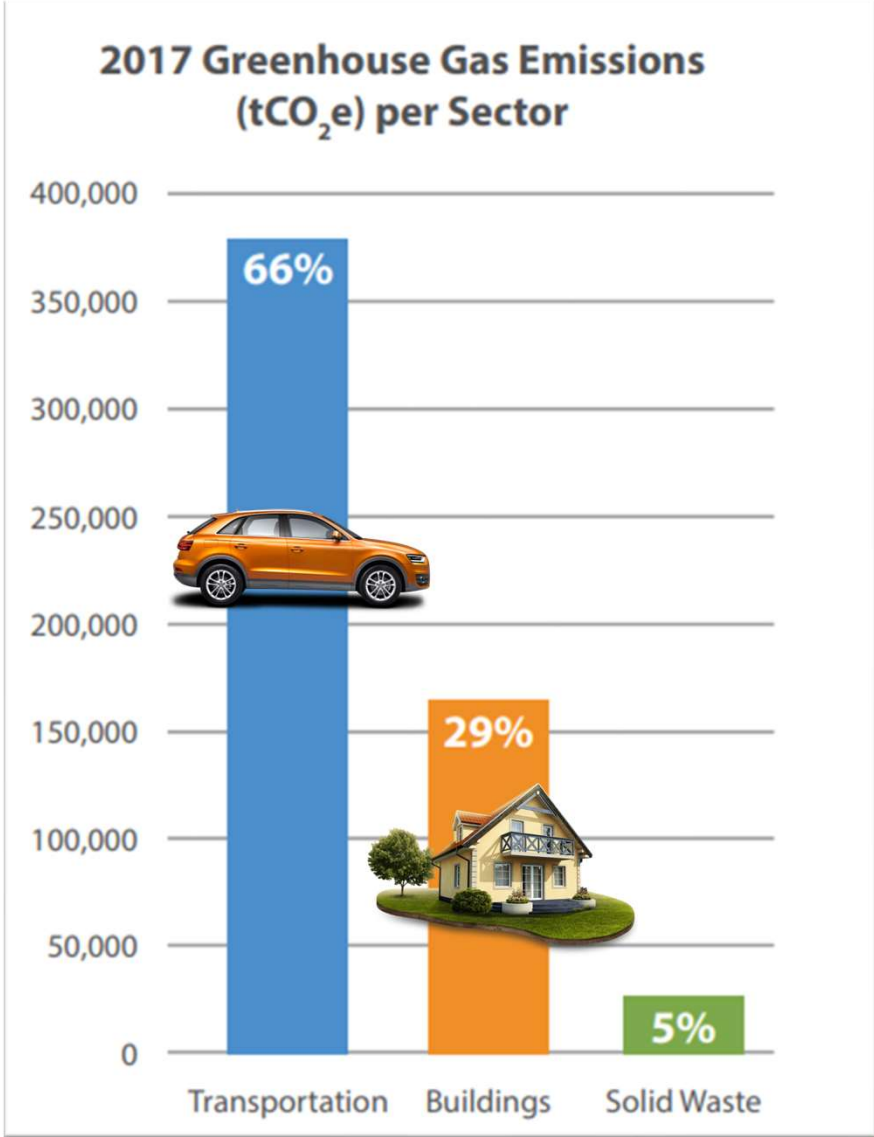
- ✓ Plans were not conceived or written with Canadas interests first
- ✓ Much of our modern life is considered unsustainable
- ✓ Requires undefined economic and social transformation
- ✓ Result in government control and management most things
- ✓ Will not stop climate change, will not prevent the next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

Cutting Emissions in Kamloops



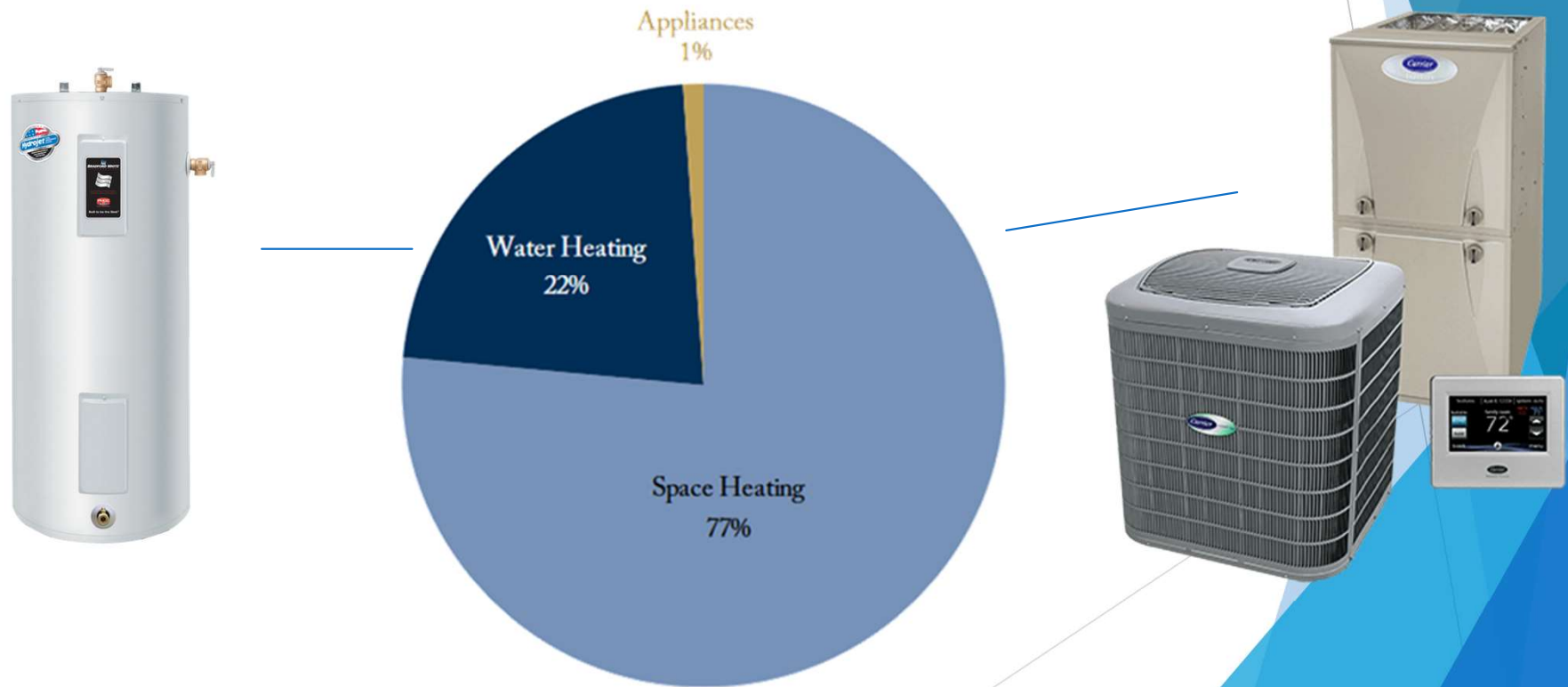
https://www.kamloops.ca/sites/default/files/2022-01/cityofkamloops_communityclimateactionplan_june2021_final.pdf

Kamloops Emissions



Housing Emissions

Figure 2: Residential Building Emissions by Source





How Can we reduce CO2 from Housing?

- ▶ Change building codes for future housing
- ▶ Retrofit and improve efficiency on older homes
- ▶ Switch to lower carbon forms of energy for homes
- ▶ Reduce demand for energy that homes use (DSM)

BANNING GAS

- ▶ Changes to the Building Code “Zero Carbon Step Code”
- ▶ No gas installed after 2030
- ▶ 100% efficiency for new appliances after 2030

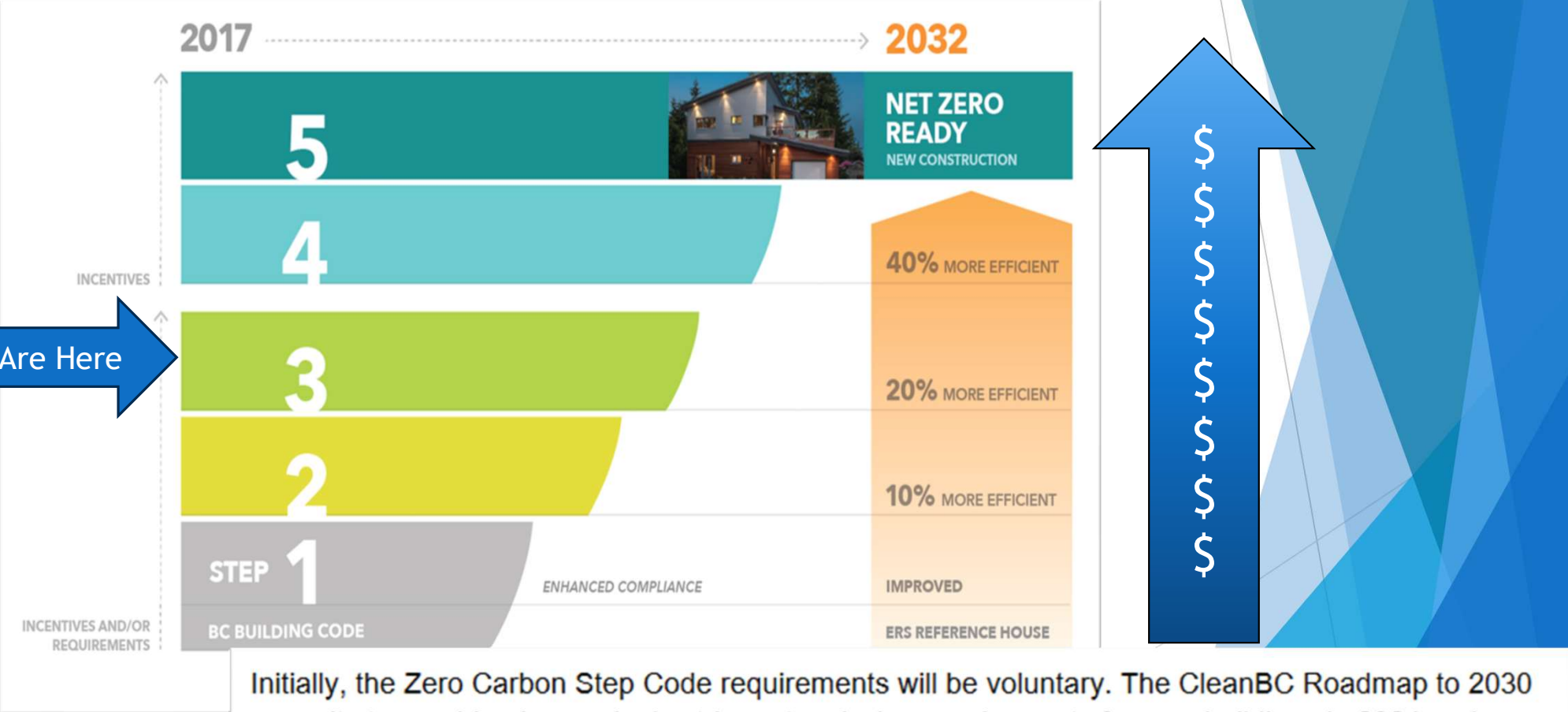
BC's premier Eby wearing a “I ♡ heat pumps” T-shirt

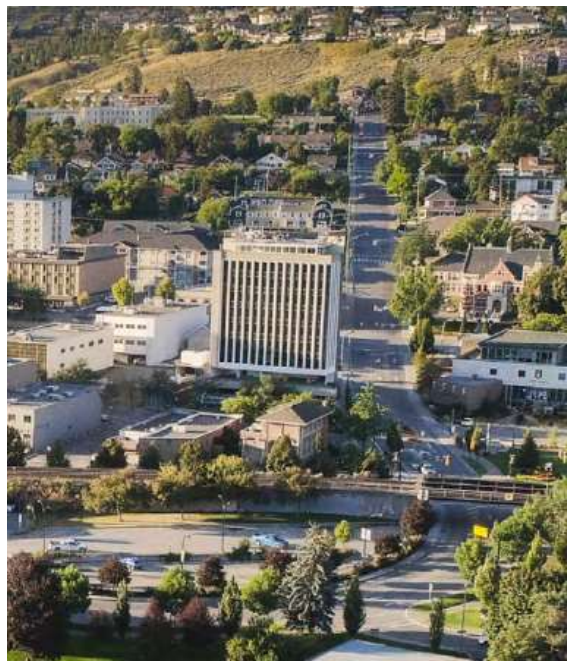


https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf

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





ZERO-CARBON HOMES & BUILDINGS



Buildings account for 29% of GHG emissions in Kamloops and are the second largest source after transportation. Homes have been growing in size, with residential energy consumption increasing concurrently in recent decades.

However, high-performance, energy-efficient buildings can be built cost-effectively while simultaneously improving indoor air quality, health, comfort, and resilience to the effects of climate change, such as extreme weather events. In BC, the Energy Step Code outlines a schedule of increasing steps of energy efficiency leading to all new buildings being “net-zero energy ready” by 2032 or sooner. In addition to high-efficiency new buildings, most existing buildings will need to be retrofitted, and electrification of heating systems, primarily through cold climate heat

electricity (primarily from hydropower in BC) or other renewable energy sources will be the largest contributor to reducing emissions in most buildings. This Big Move aims to leverage the Energy Step Code’s increasing efficiency standards to reduce energy consumption while spurring innovation in building design and increasing the use of low carbon energy systems and high-performance building materials. Existing homes and buildings will need to be retrofitted at a rapid pace, backed by incentives and supporting programs. This scale of construction

https://www.kamloops.ca/sites/default/files/2022-01/cityofkamloops_communityclimateactionplan_june2021_final.pdf

CO-BENEFIT



Green Economy and Innovation

TARGET

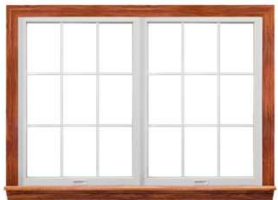
All new homes and buildings in the community will be net-zero energy ready by 2030 and zero carbon by 2040. Retrofitting 2% of existing dwelling units per year to achieve, on average, 50% GHG emissions reductions per unit.

What is a Retrofit?

Kamloops CCAP:



RETROFIT: retrofitting refers to the addition of new technology or features to an older system. In the context of low-carbon buildings, a retrofit consists of installing technology that reduces the carbon emissions of a building (e.g. replacing a gas furnace with a heat pump and upgrading to high-performance insulation or windows).



Alterations to Existing Buildings

<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*



The screenshot shows the top navigation bar of the National Research Council Canada website. It includes the Canadian flag, the text "Government of Canada" and "Gouvernement du Canada", and a search bar with the text "Search NRC.Canada.ca" and a "Search" button. Below the navigation bar is a "MENU" dropdown menu with the following links: "Canada.ca", "National Research Council Canada", "Certifications, evaluations and standards", "Codes Canada", and "Codes Canada publications". The main content area displays the title "Final report - Alterations to existing buildings". At the bottom of the screenshot is a graphic for the "UNITED NATIONS PARIS CLIMATE AGREEMENT SIGNING CEREMONY" held on "22 APRIL 2016". The graphic features a circular logo with a green leaf in the center, surrounded by a ring of colorful segments, and a large blue arrow pointing to the right.



“Voluntary” Trigger of Alteration Code

- ▶ <https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-canada-publications/final-report-alterations-existing-buildings>
- ▶ The JTG AEB recommends that the Standing Committees consider the following triggers
- ▶ Maintenance or repair or replacement with similar
- ▶ Change of occupancy type
- ▶ Addition or Space reconfiguration
- ▶ System(s) upgrade

“all proposed triggers are based on a voluntary action by the building owner to alter a building... The idea is that when an owner has decided to alter, upgrade or change the function of a building, there could be additional requirements to improve the energy efficiency, accessibility, seismic resilience, structural integrity or fire safety/protection of that building to meet the current code.”

Existing Buildings Intervention

SOURCE:

https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-canada-publications/final-report-alterations-existing-buildings#conceptual_dia

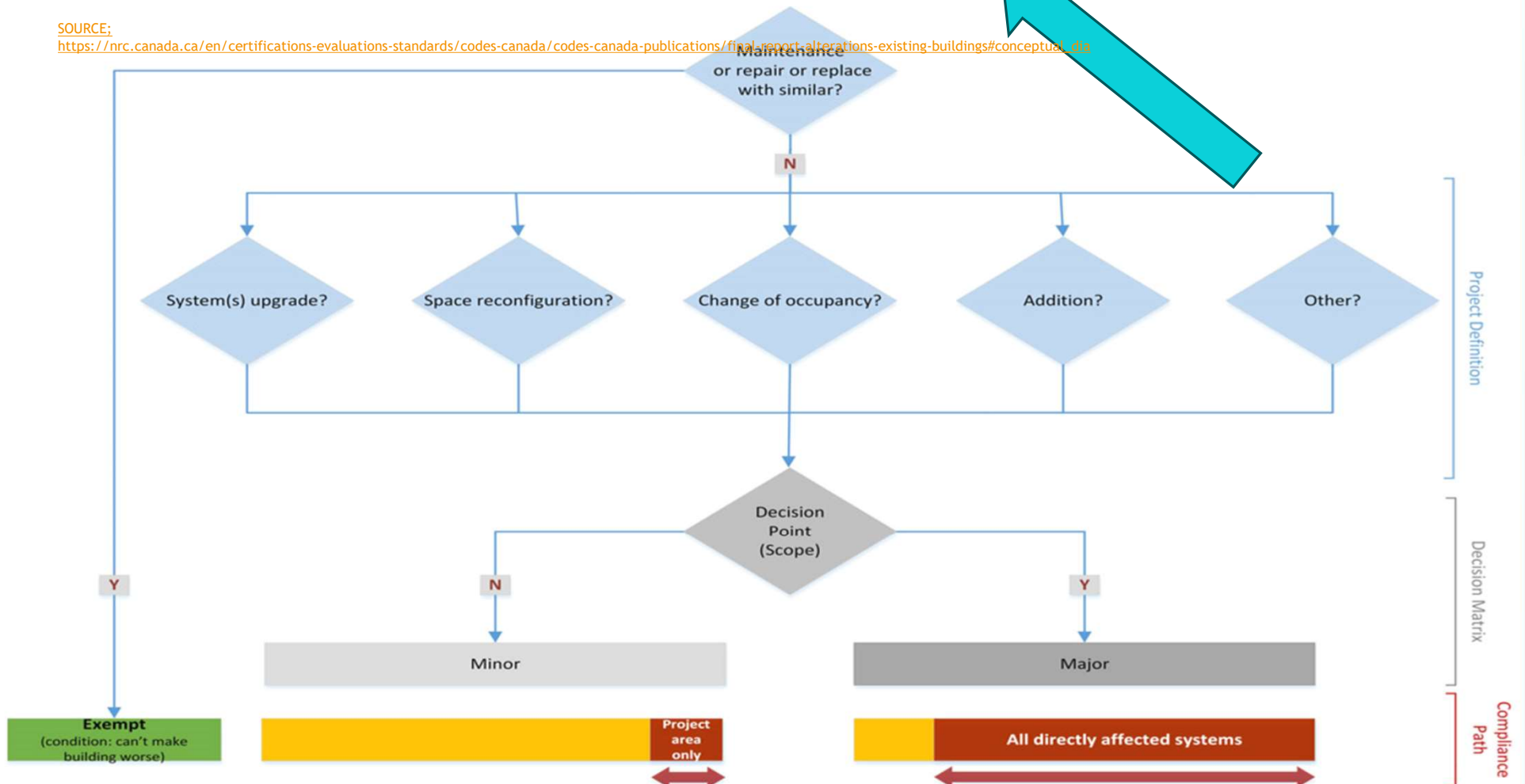


Figure 1. The conceptual diagram of the triggers, decision matrix and compliance paths that apply to alterations to existing buildings.

Coming in 2024 in BC

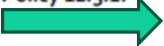



Alterations Code in the Kelowna OCP

Objective 12.4. Improve energy efficiency and reduce greenhouse gas emissions of new buildings.

- Policy 12.4.1. Energy Step Code.** Incrementally increase the energy efficiency of new construction (Part 9 and Part 3) by accelerating **Energy Step Code** performance requirements towards **net-zero energy ready buildings** before 2032.
- Policy 12.4.2. Energy Efficient Design.** Encourage the use of passive design to reduce energy demand as described in *Chapter 18: Form and Character Development Permit Area*.
- Policy 12.4.3. Operational Greenhouse Gas Emissions.** Explore tools to encourage new construction to achieve low or zero GHG emissions from operations.
- Policy 12.4.4. Lifecycle Greenhouse Gas Emissions.** Encourage new construction to reduce life-cycle greenhouse gas emissions from material extraction to demolition.

Objective 12.5. Improve energy efficiency and reduce operational greenhouse gas emissions of existing buildings.

- Policy 12.5.1.**  **Energy Efficiency for Existing Buildings.** Support the accelerated local implementation of a provincial alterations code (expected in 2024) for existing buildings.
- Policy 12.5.2. Home Energy Awareness.** Simplify the retrofit process by offering resources to homeowners that expand awareness of home energy performance and energy efficiency opportunities.
- Policy 12.5.3.**  **Energy Labelling.** Support provincial initiatives to require home **energy labelling** for all residential units at time of lease or sale to support increased disclosure and knowledge of home energy performance.
- Policy 12.5.4. Resources to Address Energy Poverty.** Provide resources, such as incentives, capacity building and training, to assist households with a high home energy cost burden.

From BC Ministry of Housing

- ▶ Fall Update for 2022 was postponed due to changes in the National Building Code
- ▶ BC will release more information in 2024
- ▶ Current trigger: opening a permit
- ▶ NBC is STILL OPEN FOR PUBLIC COMMENT

- ▶ https://cbhcc-cchcc.ca/eng/public-review/2023_2/2023_2-proposed-changes-to-nbc-necb-nfc-npc-combined-file-2023-10-20.pdf
- ▶ <https://cbhcc-cchcc.ca/en/public-review-of-proposed-changes-to-the-2020-national-model-codes/>



CBHCC
Canadian Board for Harmonized
Construction Codes

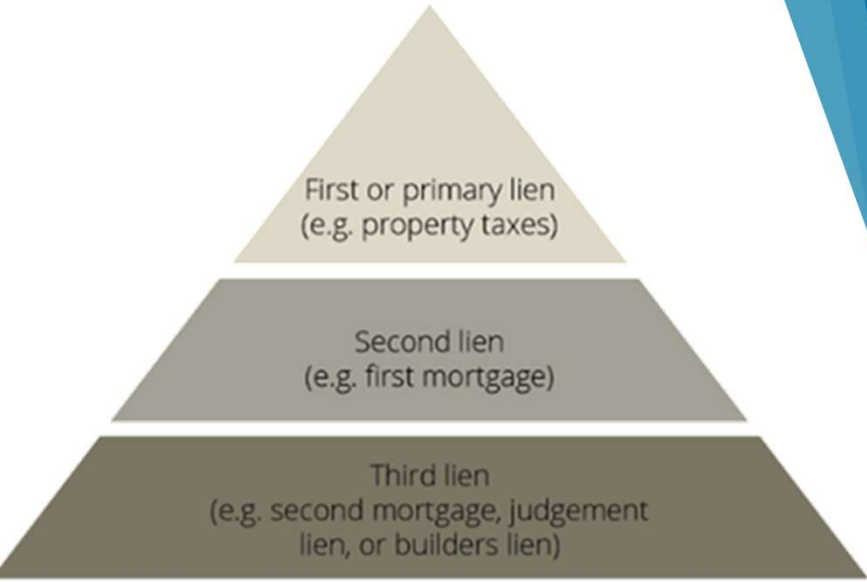


Figure 1. Example of a typical property lien prioritization



PACE Program: Going into debt for Climate Action

- ▶ Property Assessed Clean Energy
- ▶ Government will change legislation allowing them to take first place lien/mortgage against your house for you to pay for energy efficient upgrades

<https://www.pembina.org/reports/property-assessed-clean-energy-2020.pdf>
<https://www.ubcm.ca/convention-resolutions/resolutions/resolutions-database/support-property-assessed-clean-energy/>
 CleanBC Roadmap (Page 41/42)
https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf



How does it work?

- ▶ No credit score necessary, based on equity in home
- ▶ PACE programs link an energy improvement loan to a specific property through a municipal tax lien.
- ▶ The annual payments for the improvements are tied to the property, not an individual, and paid through local government property taxes.
- ▶ This allows for longer terms, helping to reduce upfront loan repayment costs for building improvements.
- ▶ If the property changes hands to a new owner, the outstanding balance of the PACE loan is also transferred over to the new owner.

https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf

CONTEXT

- ▶ Average home worth \$560,000
- ▶ Property Taxes are \$245/mth
- ▶ Utilities Current - \$180/mth
 - ▶ \$1400/yr gas (\$184 Carbon Tax)
 - ▶ \$780 / electric

- ▶ After Upgrade - \$100/mth
 - ▶ 0\$/yr Gas
 - ▶ \$1200/yr electric

WILL HYDRO RATES STAY THE SAME??



15 yr				
	30,000	50,000	100,000	150,000
Interest rate	5	5	5	5
Monthly Payment	240	400	800	2,000
Interest	12,558	20,931	41,862	62,793
25yr				
	30,000	50,000	100,000	150,000
Interest rate	5	5	5	5
Payment	175	290	580	880
Interest	22,344	37,240	74,481	111,722

Will you save money?

- ▶ According to Kamloops CCAP: 970/yr savings = \$80/mth
- ▶ What if BC Hydro Rates go up?

• Energy-efficiency retrofits can decrease energy bills and lead to healthier homes with better ventilation and thermal comfort levels. Based on 2019 Kamloops average household spending on energy, a 50% improvement in energy efficiency post-retrofit will result in average savings of \$970 per year.*

25yr Amortization vs Interest Rate Break Even

Max Borrow Amt	21,000	17,000	13,750	11,500
Interest rate (%)	1	3	5	7
Monthly Payment	80	80	80	80
Interest	2,737	7,135	10,203	12,664

What does California Say About PACE?

- ▶ ...misrepresented the cost of PACE projects and the financing, claiming no money down or out-of-pocket-costs are required
- ▶ **PACE assessments can also make it more difficult to sell or refinance a property because a lien is placed on your home until the PACE contract is paid off.**
- ▶ Property taxes can increase substantially with the added cost a PACE contract.
- ▶ Homeowners who cannot afford it **could lose their homes through a foreclosure action.**

<https://dfpi.ca.gov/pace-program-administrators/pace/>

Is PACE being proposed in BC?

- ▶ **YES.** On four separate occasions—in 2014, 2016, 2017, and 2019—local governments at the Union of BC Municipalities conference passed resolutions in support of legislation that would enable PACE programs.
- ▶ In its response to the 2019 UBCM resolution, the Ministry of Municipal Affairs and Housing stated that the province was open to PACE discussions
- ▶ The September 2020 BC Economic Recovery Plan included \$2 million for the province to support the development of a PACE financing too

▶ https://www.helpcitieslead.ca/wp-content/uploads/2021/01/HCL_BRIEFING_PACE-1.pdf

■ The Province will proceed with the next steps on a Property Assessed Clean Energy (PACE) program, an alternative financing option to help building owners invest in energy retrofits

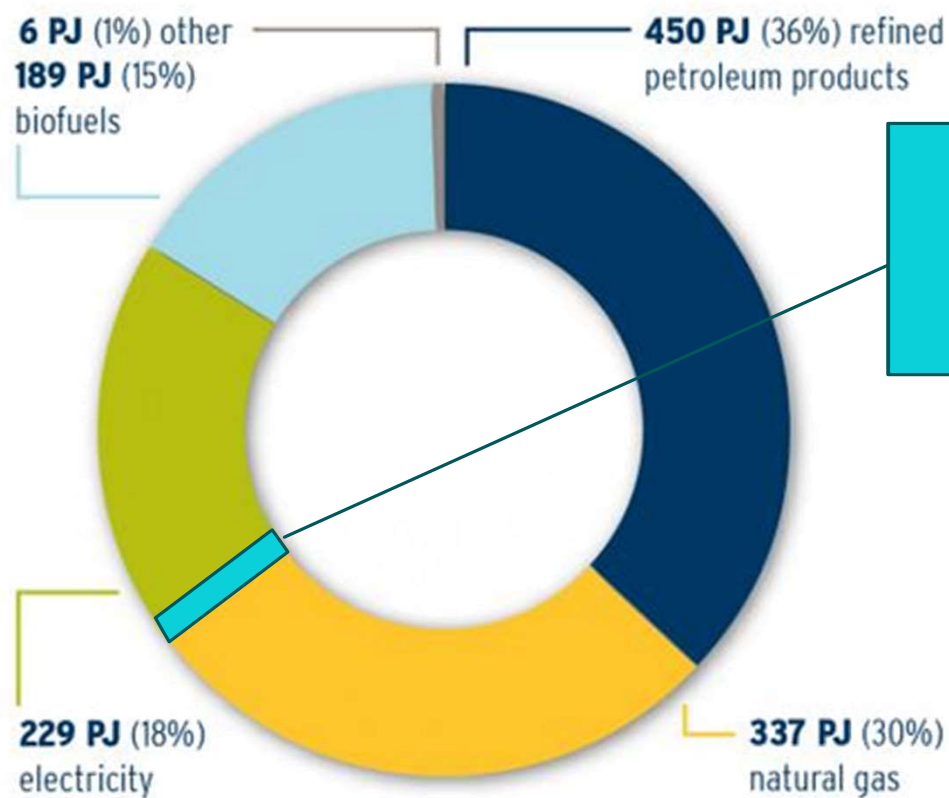
Other Clean BC on Housing Initiatives



- ▶ After 2030, all new space and water heating equipment sold and installed in B.C. will be at least 100% efficient
 - ▶ No more gas only furnaces
- ▶ Mandatory Energy Labelling (at whos cost?)
 - ▶ \$600 for an Energuide Assessment
 - ▶ Require all homes listed for sale to have an assessment
- ▶ 2024 - Stop all subsidies and grants for energy efficient gas furnaces and appliances through Fortis

https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf

Can We Electrify BC?



End-use
demand
by fuel

<https://talkingenergy.ca/stories/facts-about-where-bcs-energy-comes>



Electrifying Everything: Is it even possible?

87 TWh
shortfall

Current Yearly Power
Generation for BC
64 TWh

Site C: **5.1 TWh**

150 years of Energy Infrastructure and
Development

Additional power to electrify
existing gas heating

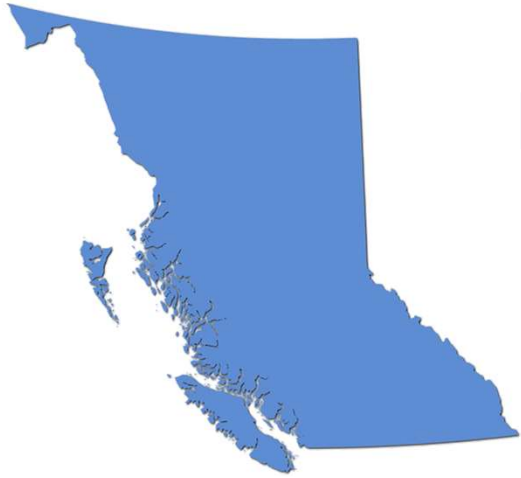
23.3 TWh

Additional power to replace
Diesel ICEVs

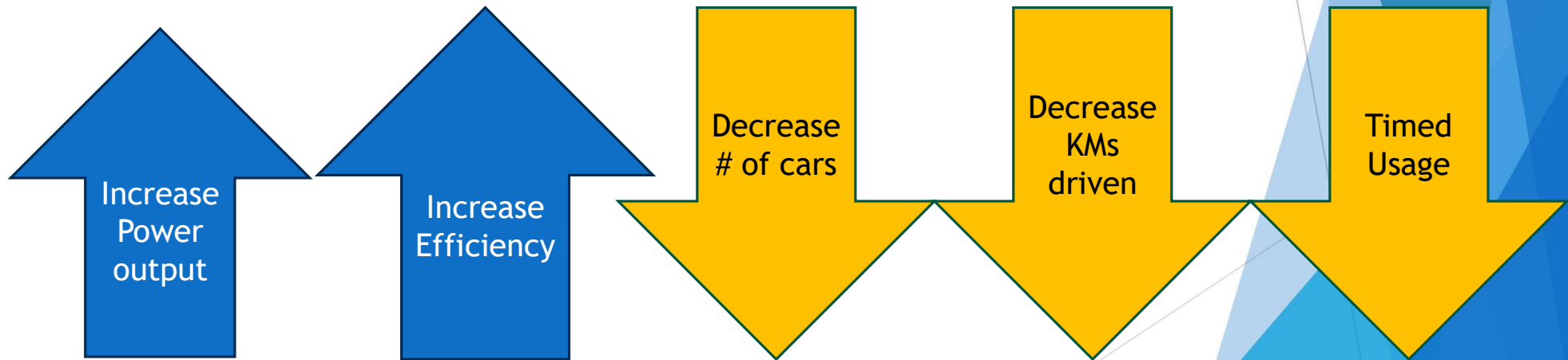
22.5 TWh

Additional power needed to
replace gasoline in ICEVs

41 TWh



Electrifying Everything: Is it even possible?



<https://www.bchydro.com/news/conservation/2021/ev-myths-busted.html>

2yrs : BC Hydro is 4,000 GWh 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 \$\$\$

GOVERNMENT FINANCES

August 9, 2023

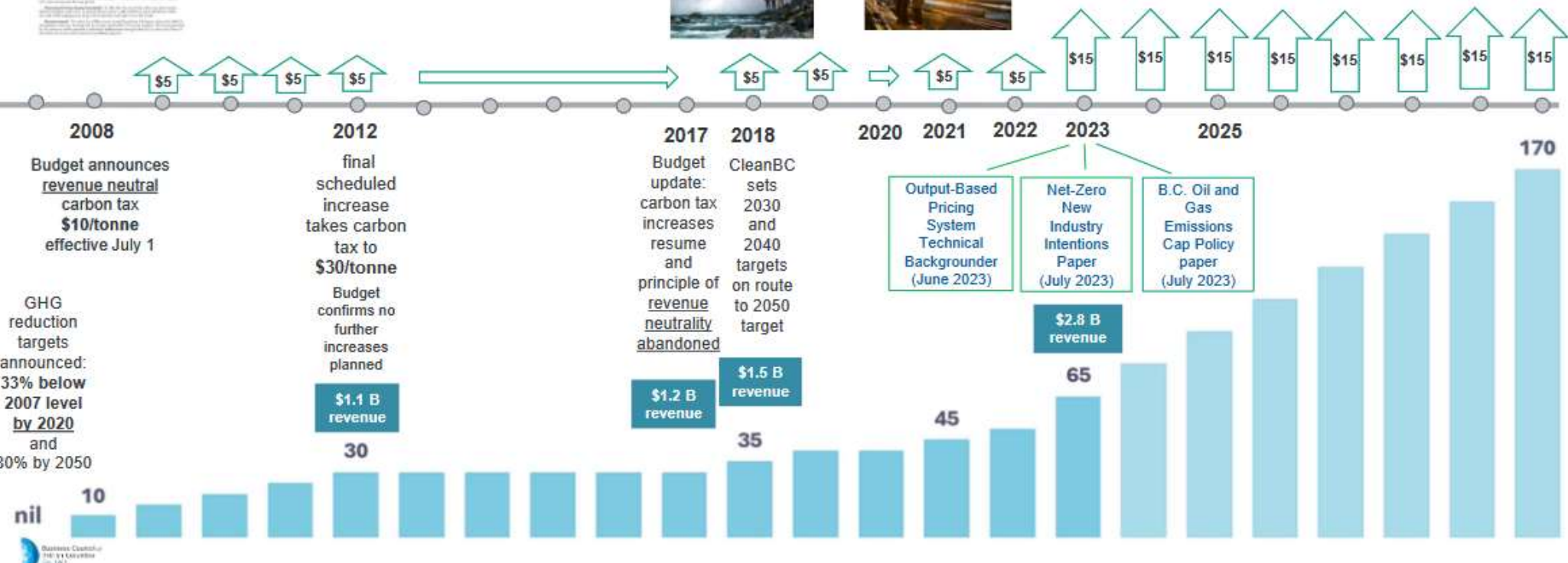
Government's own modelling shows its CleanBC plan will dampen economic growth and set B.C.'s prosperity back more than a decade

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

B.C.'S CARBON TAX



Business Council of
British Columbia
Est. 1966



GHG reduction targets announced: 33% below 2007 level by 2020 and 80% by 2050

LITERALLY A POVERTY PLAN

ECONOMIC MODELLING RESULTS REFERENCE SCENARIO AND CLEANBC SCENARIO

GDP: Reference Scenario				
Unit: billion 2015 \$	2015	2020	2025	2030
TOTAL ¹	233.8	264.1	297.8	317.2
FOSSIL FUEL INDUSTRY	8.4	8.9	13.6	16.5
Coal Production	1.2	1.6	1.7	1.8
Upstream Oil and Gas	5.4	4.8	9.8	10.0

GHG_Policies GDP_Ref GDP_CBC Energy_Ref

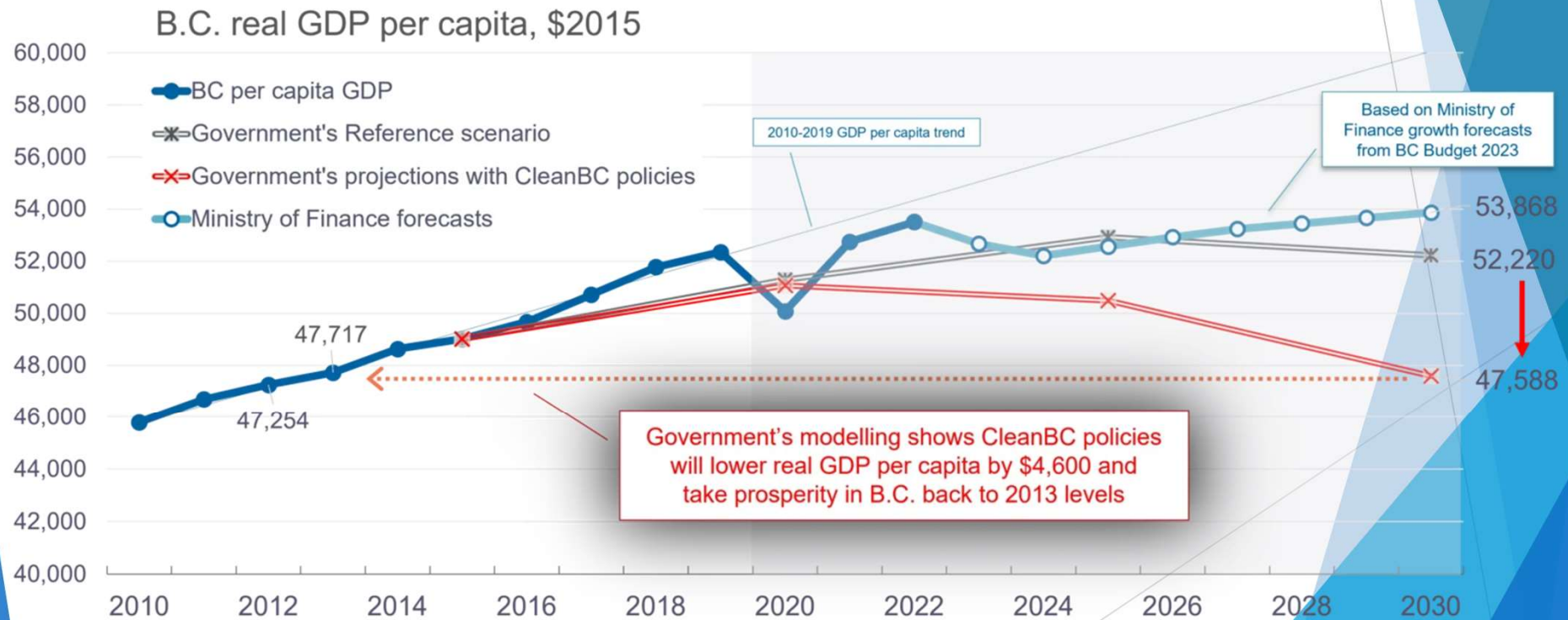
GDP: CleanBC Scenario				
Unit: billion 2015 \$	2015	2020	2025	2030
TOTAL ^{1,2}	233.8	263.0	284.1	289.1
FOSSIL FUEL INDUSTRY	8.4	8.8	14.6	13.6
Coal Production	1.2	1.6	1.6	1.5
Upstream Oil and Gas	5.4	4.7	9.3	8.5

GHG_Policies GDP_Ref GDP_CBC Energy_Ref Energy_CBC Elec_F

Difference	
2025	2030
-13.7	-28.1
-1.0	-2.9
-0.1	-0.3
-0.5	-1.4

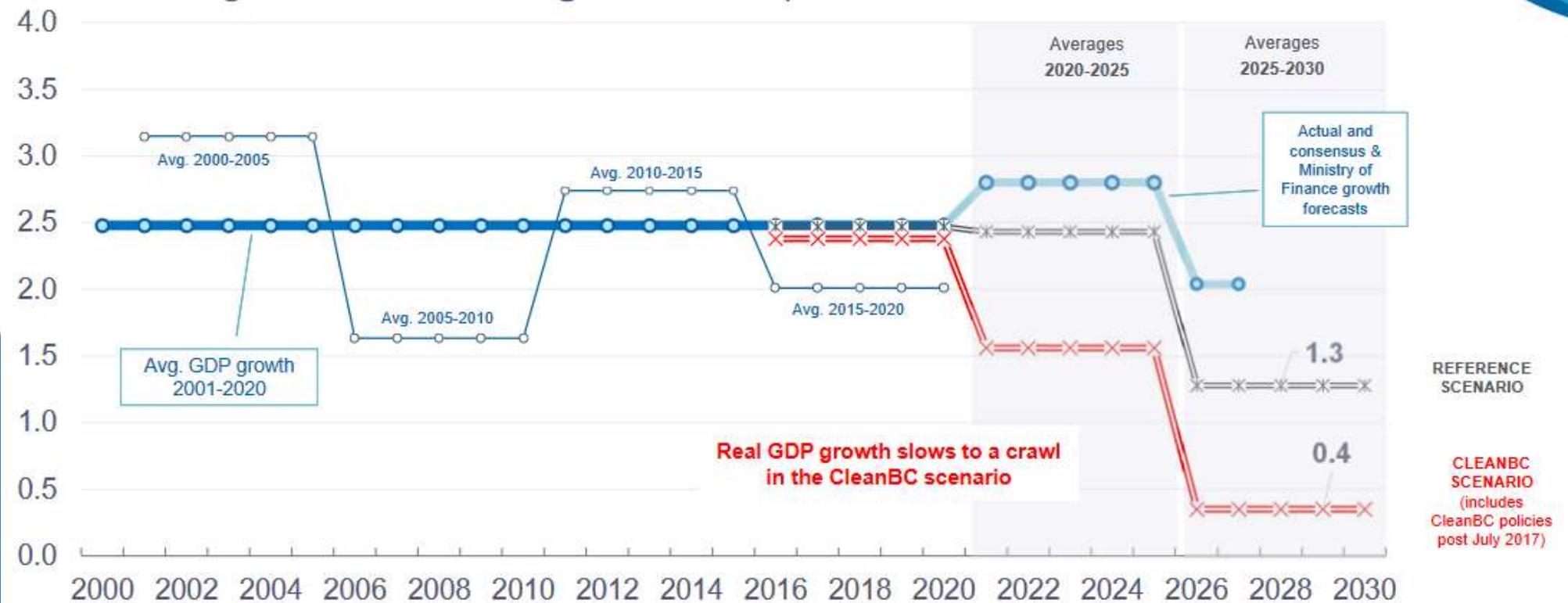
GDP_Ref GDP_CBC

CLEANBC POLICIES PROJECTED TO TAKE PROSPERITY IN B.C. BACK TO 2013 LEVELS



B.C.'S AVERAGE ANNUAL ECONOMIC GROWTH SLOWS TO JUST 0.4% IN THE SECOND HALF OF THE DECADE

B.C. avg. annual real GDP growth over periods shown, %

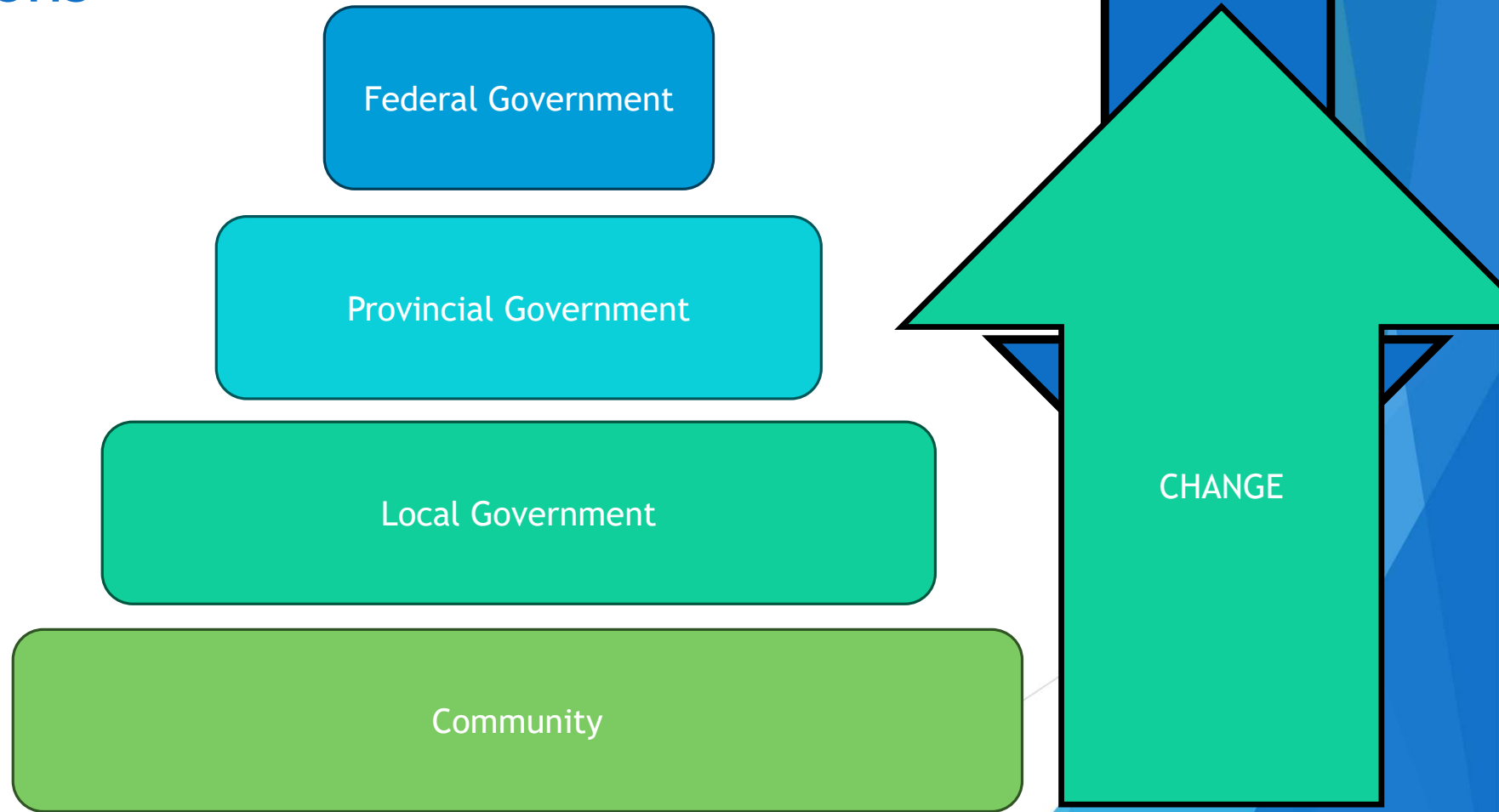


SUMMARY

- ▶ Sustainable Development means government control of everything
- ▶ Mandating CO2 cuts will cause economic stagnation
- ▶ Electrifying everything may cause energy shortages
- ▶ Forcing energy upgrades on homes will:
 - ▶ Increase property taxes
 - ▶ Reduce sell-ability
 - ▶ Increase costs, reduce homeownership
- ▶ None of this will stop climate change



Solutions



Solutions

MAKE GOVERNMENT LOCAL AGAIN:

- ▶ Empower local government to defend their jurisdiction, advocate for Kamloops First

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"



QUESTIONS

