

"Policy Worth Stealing!-A Globally Conscious Citizen's Guide to Climate Change Policy Development and Leadership"

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Foreword

Clearly enough professionals and leaders missed the full course on policy making that we got ourselves into a climate and ecological disaster. This is a practical guide to policy improvement that will contribute to lowering our pollution load as well as be a reference handbook for different “model policies” already enacted or designed.

I took time out to serve as a policy wonk on this issue because from past experience, I and others know that when policy is written and followed, it translates into real and lasting change, and we see that as these disasters unfold, people may be a little short on resources that will translate into effective policy work and research. Hopefully I have it covered for you.

For climate deniers, I have reserved the post script of the book for a good portion of them, so that the solutions to our behaviours remain the focus of the policy compilations quoted in this easy to read handbook, which I truly hope, will find its way into the hands of everyone who considers themselves a community, or national level leader or local to regional and provincial policy programmer.

After an introduction to generating policy, different types of policy are presented in sometimes large chunks. Legislation has been left this way so that you can see the effect it creates.

I provide only a few comments so as not to distract from the policy I think is of interest for 2020 and beyond.

Organizational levels covered by this handbook:

- Individual
- Tribal
- Parties, Weddings, Funerals
- Clubs & Groups
- Associations
- Tournaments & Conferences
- Tourist Destinations
- Schools
- Universities
- Corporations

Municipalities
 Provinces/States/Territories
 Federal
 International

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Chapter 1. Introduction

Policy Development Basics: Getting Creative

It's a good idea to learn from experienced policy developers, like Rory Ralston and several others by taking a workshop with a good teacher. Failing that the best thing to do is generate a creative environment while starting the policy generating process with your team. This means simply making the environment comfortable according to how much time will be spent working on policy development. Often, people will be primed with a mandate or a pain that needs solving, which in this book you will see from several angles in the climate change policy space that should prime your creative output, even by borrowing and adapting, which I highly recommend from this book and the sources quoted.

Committees:

First two to three executive committee meetings to set or advance environmental hygiene and sustainability in your organization. The main key is to have these meetings.

Checklist of committees: executive, finance, advocacy, programs, personnel, after adopting a policy that you will review committee structures at least every year and as need arises, how that review work is done across the different committees needs supervision by the executive committee. We will discuss kick starter examples for the organizations, University Boards, Professional Associations, Legislative bodies, Teachers Associations, Corporations, Medical and Legal Associations.

Corporate boards: Corporation Acts could be amended to encourage all boards to have environmental hygiene and sustainability directors in a *standing* rather than an *ad hoc* capacity. The healthy environment is a formal infrastructure, without which, we would all die, (and some of us already do); it deserved full standing as a going concern in society a long time ago.

During my tenure as a member of the ACPBC, (the British Columbia Chemists Association) and a glancing familiarity with APEG BC, the BC Engineers Association, I learned how their policy frameworks are structured. It is worth saying that getting volunteers to take policy development training for these organizations sometimes runs counter to their ethos, and has translated into policy management that mainly involved inserting textbook standards as guidelines and benchmarks for behaviour in professional practices. (This served to communicate standards while protecting jobs from the big bad capitalist employers) Professionals should be more protected than this and we address this in this handbook. This development has left out some very basic communications infrastructure that would have been developed by an advocacy committee that would have noticed and regulated the loss of environmental standards that has devolved around us. By that I mean that tipping points for natural systems such as the hydroxyl cleansing system being completely swamped, or leaching of CO₂ and methane from melting permafrost, or real control of fracking methane could have been caught earlier by the professionals.

Environmental policy and practices, needs more dialogue worked into the declaration of professional practice, with a new communications axis between the public, the associations, the professional, government, and regulators on environmental standards and hygiene.

In order to achieve this, I recommend the formation and development of Environmental Stewardship Tribunals. The court systems of most nations have utterly failed to address stewardship liability and there is now a huge backlog of injustices world wide. It would be better to hire trained scientists and have lawyers play a supporting role rather than the failed legal systems with the opposite emphasis on expertise (legal over scientific) we have today.

I recommend both state and provincial level tribunals as well as federal.

The science and environmental professionals and para-professionals have complained that if they were to assert on a job site that a breach of good practices or an injustice was occurring, they would lose their jobs. The hesitancy created by this has been tragic to society. Legislating an “Environmental Protector’s Rule” with different alert levels which ensure that danger levels and response match, which ensures that any professional invoking it cannot lose their employment, and the professional also triggers a provincial tribunal investigation or inquiry once the information about the infraction is provided to it by the professional.

This would help to speed the cleanup on a global basis, removing the court bottlenecks, and including experts in a more appropriate manner.

The Power of the Tribunal would include: Advice, Directions, Sanctions, Studies, Fines, Liability Charges, Restraining Orders, and in some cases like with Carbon liability- back taxes. The bottom line is that professionals must be protected from the poor dictates of their employers or we are going to be too late for environmental recovery.

Chapter 2.

Policy on policy making

Definition of environmental standards: a quantitative or behavioural/procedural standard or convention that will ensure long term sustainability as it is practised. Sustainability is constrained by any parameter of danger or harm that may result from an operation, action, service, product, process, function, construction, infrastructure or activity.

Committee structures that should not be missing from organizations

Executive, Programs, Personnel, Finance, Advocacy and **Sustainability**.

It is not enough to just share different practices, knowledge for actual policy advancement needs to be gathered for your own organization. That means encouraging the skill of crafting policy in your organization and becoming good at stealing it from other organizations and making it fit yours.

When crafting policy, the first drafter needs to know that the easier job of editing and refining the first draft by others may trigger ego issues, so don't take the alteration process personally in any way because it is not personal. The first drafter is very important, and your reward will be seeing the engagement along with the evolutionary process unfold with different people as they transform the first draft, often aggressively, which is normal. You are laying the foundation for a very cerebral process for others which is an important service.

If you are editing a first draft provided to you, it is good to use appreciative etiquette around first drafters when initiating your edits or changes to the process, after all, politeness sets the tone for good ongoing creative work.

Drafting is Crafting! Here is a Primer that will help you get a good feel for this process with a simple Personnel incentive policy draft procedure guideline.

The process of getting started with drafting a policy- How-to ideas

To do this, the organization will have described first some form of vision, purpose statement, and a mandate to serve a need or solve specific problems, or communicate as a service or guide processes or behaviour. The organization may have possibly given you some general objectives that fall under a committee context, which is normal.

I have found that the first question to ask is in this context, what do we want? And then list items that come to mind. These items can be actions, standards, communications, statements, responsibilities that help you achieve what you want to do.

Example:

Objective

The personnel committee wants to provide incentives to volunteers and the board

Ask what are we already empowered to do?

Volunteers and Directors earn discounts at three restaurants that donate meal discounts to us

What is the intent behind the policy? What is the scope of the policy?(write 1-2 sentences under a Scope and Intent heading)

“The procedures for volunteers to earn and accrue, then remit and collect their meal discounts in a fair and equitable system. It will be reviewed semi-annually”

Ask how they will earn their discounts? Imagine your people relating to the discount incentive as they come and go. Envision a state of function or supportive procedures or processes that you think will achieve the objective of the policy. Use bullet points and sentences. Both are used in policy documents.

Brainstorm (some people will do this well alone, or better with others)

Will there be different scales of reimbursement, and will the process involve more than time served?

Will any emphasis on special projects mean a higher reimbursement scheme?

How can we expand the program for the volunteers. What are the do's and don't s? Trouble shoot any areas to smooth operation of the incentive and project solutions for any new pain points or difficulties already found that are part of why you are drafting a policy. Outline the committee and their roles and responsibilities.

Move from general to specific as you complete each functional idea

The chair will ensure that reimbursements are done in a timely manner

- *There will be a record keeping system for the incentive program that is updated weekly from the volunteer scheduling system on a whiteboard.*
- *The system will be based on honour and will be supervised by a committee member who will also record the weekly updates of contributions in a record book that can be inspected by any member of the organization.*
- *Discount vouchers will be housed in a lock box in the office, kept by the recording volunteer or committee chair.*

The advocacy committee will maintain an ongoing relationship with the donor restaurants that supply the coupons for the volunteers.

Always try to draft 1.5 – 2 pages for the second reviewers. Once a second and third review is done, you will have more ideas and move into a final draft. It is best to witness the reviews in person and have them done in the tone of brainstorming sessions. This will be the most productive.

The Main format of a policy is to write the policy (the desired outcome from a specific challenge or problem-”the pain”) and then develop procedures of what will be done to achieve that outcome- what we want. There are many “pain points” with climate change that can be addressed at almost any level.

Local organizations can focus on everything from the individual to any level of organization, and the largest organizations can focus on problems of any scope and size, so take your pick. Usually the first place to look is to see what the internal pain points of your organization are that affect the environment, then branch out to the immediate surroundings, then look at ways to solve problems external to the organization but still somehow relevant to the organization. Frankly everything with climate change is very broadly yet critically connected because the infrastructure of our air is a global medium upon which we are each and all writing our collective future, with the poorest and most vulnerable of us going first under duress into these known dangers. Here's a personal policy that might help, "love your neighbour as yourself"; it has the appropriate causal character to fully apply with climate change.

Types of Policy

Administrative

Procedural

Standards

Communications

Educational

Financial

Personnel

Operational- Programs often fall under this. A feebate program would be an example.

Safety

Remedial

Often a program policy will incorporate more than one kind of policy.

Already Conceived of Climate/Environmental Policy Headings and Explanations or examples.

*Policy on Climate Change Abatement Federal/Provincial/Municipal
Intervention Policy, Reversal procedures*

Often the Policy heading will kick start policy writing, so look at creating a headline early.

Policy on Climate Change Regulation for Federal /Provincial Governments

Comments: Here we see that Climate Emergencies have been declared at organizational, corporate, Federal, personal, professional, and municipal levels, and procedures are being changed to lower carbon emissions. We need policies that incentivize new low carbon ways to consume, operate and produce and this initially is being done with a carbon tax. Add feebates which can even be deployed by

a club organization, and traditional conservation measures at the home such a permaculture and regenerative gardening, adding renewable energy sources to the home, telecommuting, ride sharing, veganism, and instituting zero carbon days. Federal/Provincial/Municipal governments can provide carbon usage apps to individuals to track their use, and targets, and set up low emitter tax rebates for not owning a car, reducing or removing the cost of public transportation by allowing governments to sue fossil fuel companies for both infrastructure transition costs and direct greenhouse gas remediation costs.

Example Policy on Tradable Emissions Permits

Proposed Purpose: An integrated, equitable Carbon economy is needed based on the actual carbon budget left globally, and here are a few very basic concepts that could be written into a society plan. It can be dry run for educational and testing purposes before it is fully implemented because we do have the computing power. This is a highly flexible template of options.

1. Tradable carbon budgets constructed on a CREDIT card like system which are secure, reloadable transferable, auditable and adjustable.
2. Individual, Group and Community Carbon VISA, accounting systems possibly secured by block chain technology.
3. Personal Carbon budget based on preset lifestyle standards. People can check their budgets at different living standards
4. Each person can profile themselves and find their budget baseline, budget for buying or offsetting luxuries like bonfires for example. After certain limits, buying the privilege to emit becomes more expensive on a progressive or exponential scale because then the disincentive will match the current emergency need to halt emissions
5. Work and Professional Carbon budgets for commuting, air travel
6. Enterprise carbon budgets: Based on # working persons, FTE, commuting/non commuting, vehicle/no vehicle
7. Family Carbon VISA
8. Borrowing rules, borrowing against future credits for family emergencies and family funerals
9. GHG Offsets Savings Plans- if there are “fast & direct” greenhouse gas removal technologies where offsets can be bought, these are acceptable
10. Offset Insurance-buying a policy which invests in offset technologies where liabilities like mobile emissions are hard to quantify, buying offset services direct from an offset technology provider
11. Offset project Investment plans, term deposits, notes, where investing in offset projects or services accrues a small percentage of growth in the credit at maturity

12. Assigning or inheriting offset credits-rules and procedures
13. Offset volunteerism, tree plantings, plant biomass credits, purchase & use of solar power equipment, buying bulk solar or hydro, carbon negative power, or carbon neutral power of heating, efficiency incentives
14. Offset technology loans, grants, investments should be incentivised with tax rebates, lower rates, tax reductions, patient terms to repay loans.
15. Carbon credit pooling for neighbourhood, community, district, province/state/, Country projects.
16. Carbon sink development and protection, conservation, expansion project lending and incentives
17. People and projects which go over budget must be given lower priority/delayed purchasing power than those whom are getting their basic needs met. This needs to be phased in and scaled.

As you can see, there are several ways to replace the failed honor system that is used now by societies when it comes to the removal of the invisible personal and community garbage known as greenhouse gas. These could be used if the situation becomes unbearably dire and intractable.

Net Zero and Negative Carbon Days

We need to allow these in a new society that is no longer driven and sustained by a growth paradigm when there are 8 billion people on the planet. What does a zero carbon day look like?

Firstly, individual or groups can practice these. It will involve people buying direct removal of their greenhouse gas footprints, no driving, maybe a combination of gardening, reading, telecommuting, solar panel electricity use, vegetarian eating, or low-carbon recreation.

Residue Inventory and Monitoring Policy for Professional Associations

Professional Associations require each professional registered to itemize their activities every year. Declarations of Professional Practice around the world need to include some important questions for professionals in order to better protect themselves.

Sample

“1. Are there any work related environmental infractions or hazards that need monitoring, correction, or removal and what is your employer’s current demeanour on this issue: 1: ignorant, 2: aware but non responsive 3: repeatedly advised but repeatedly ignoring 4: responsive and is remedying.

Would any action on the part of the Association encourage a faster or better outcome?”

Chapter 3.

Climate Emergency Response-City of Vancouver

This is what a Municipal Climate Emergency Response Looks like: This is large chunk of policy which is left intact and without interjections by me.

SUBJECT: Climate Emergency Response

RECOMMENDATIONS

A. THAT Council adopt a new City-wide long-term climate target of being carbon neutral before 2050 as a complement to the target of 100 per cent of the energy used in Vancouver coming from renewable sources before 2050.

B. THAT Council adopt the target that by 2030, 90 per cent of people live within an easy walk/roll of their daily needs, and direct staff to report back by Fall 2020 with a strategy to achieve the target (“Big Move #1”).

C. THAT Council accelerate the existing sustainable transportation target by 10 years, so that by 2030, two thirds of trips in Vancouver will be by active transportation and transit, and direct staff to report back by Fall 2020 with a strategy to achieve the target (“Big Move #2”).

D. THAT Council adopt the target that by 2030, 50 per cent of the kilometres driven on Vancouver’s roads will be by zero emissions vehicles, and direct staff to report back by Fall 2020 with a strategy to achieve the target (“Big Move #3”).

E. THAT Council adopt the new target that by 2025, all new and replacement heating and hot water systems will be zero emissions, and direct staff to report back by Fall 2020 with a strategy to achieve the target (“Big Move #4”).

F. THAT Council adopt the target that by 2030, the embodied emissions in new buildings and construction projects will be reduced by 40 per cent compared to a 2018 baseline, and direct staff to report back by Fall 2020 with initial actions to achieve this target including recommendations to remove regulatory barriers to Climate Emergency Response – RTS 12978 2 mass timber construction and initial requirements for embodied emissions reductions (“Big Move #5”).

G. THAT Council adopt the target that by 2030, restoration work will be completed on enough forest and coastal ecosystems in Vancouver and the surrounding region to remove one million tonnes of carbon pollution annually by 2060, and direct staff to report back by Fall 2020 with initial actions to achieve the target, including potential partnership opportunities (“Big Move #6”).

H. THAT Council direct staff to begin implementing the Accelerated Actions as described in Appendix A and report back to Council with an overall progress report by May 2020.

I. THAT Council direct staff to proceed with the development of a carbon budgeting and accountability framework for corporate and city-wide carbon pollution that meets the objectives described in this report.

J. THAT Council direct staff to proceed with the formation of the Climate and Equity Working Group according to the objectives, process, timelines, participants and budget described in this report.

K. THAT Council direct staff to proceed with the development of Vancouver’s next environmental plan, Greenest City 2050, which will incorporate the work from this Climate Emergency Response report, as well as broader environmental sustainability objectives, and report back on the recommended strategy that will be integrated and coordinated with the City-wide Plan.

L. THAT Council direct staff to integrate the six (6) Big Moves in this report into the development of the City-wide Plan recognizing there will be further development and refinement of the Big Moves which will be informed by and coordinated with City-wide planning.

City of North Vancouver Community and Energy Emissions Plan

This Community Energy and Emission Plan provides analysis to support the Official Community Plan Amendment necessary for the City to comply with the new Local Government Act requirements to include greenhouse gas reduction targets, policies and actions by May 31, 2010.

The Plan's objectives are to:

- ☞ Develop a climate and energy vision that supports core City priorities;
- ☞ Develop a high level framework that builds on and guides existing City activity, with new sector-specific policies and actions;
- ☞ Estimate the near term costs of climate and energy-related policies and actions;
- ☞ Develop defensible and meaningful greenhouse gas reduction target(s).

Here is a Municipal Community Emissions Policy, which shows How to Structure a Plan at the beginning:

1.1. REPORT STRUCTURE AND APPROACH The Plan is organized in five sections:

Section 1: Introduction shares the City's vision and historical sustainability activity from which the Plan is based, and outlines the approach taken for its development.

Section 2: Situational Analysis examines the global and regional climate and energy context for the Plan, and provides a profile of the City's energy and emissions.

Section 3: Low Carbon Path presents the overarching targets, goals, and policies and actions of the Plan by sector.

Section 4: Low Carbon Zone Design Guidelines provides strategic guidance for operationalizing the policies and actions according to the unique zones of the City.

Section 5: Near-Term Direct Costs estimates at a high level the costs associated with the next strategic steps to advance this Plan.

Appendix A: Energy and GHG Emission Trends

Appendix B: Detailed Modeling Results

Appendix C: Technical Model description

Low Carbon Path	
City of North Vancouver Local Climate and Energy Policies and Actions	
Land Use	1. 10 minute complete neighbourhood planning, with an emphasis on increased access to services such as grocery stores
	2. Mixed use, high density, multi-unit residential buildings that integrate office and retail commercial developments such as neighbourhood grocery stores
	3. Development occurs around transit oriented hubs, nodes and corridors
	4. Increase the quantity, diversity and quality of local jobs by encouraging the appropriate types of commercial building development
	5. Create street and road designs that are attractive to active transportation modes and public transit use
Transportation	1. Strengthen infrastructure (sidewalks)
	2. Strengthen infrastructure (connectivity across highways/creeks/rail)
	3. Strengthen infrastructure (crosswalks, bulges, signage, street lighting, traffic calming)
	4. Progressively extend network of bicycle routes, lanes and paths, including greenways such as the Green Necklace and Spirit Trail
	5. Establish bike lockers at Lonsdale Quay
	6. Transportation demand management, including education and outreach to reduce single occupant vehicle trips
	7. TravelSmart plan development for neighbourhoods, schools, major/minor employers
	8. Pay parking implemented to fund alternative transportation initiatives with clear climate protection and liveability values

	<ol style="list-style-type: none"> 9. Support improved transit services with infrastructure improvements (signal pre-emption, bus bulges, queue jumpers) 10. Enhance transit stop comfort, accessibility, convenience, safety 11. School oriented programs to increase safety and participation of walking and cycling 12. Low and Zero Emission Vehicle Promotion
Buildings	<ol style="list-style-type: none"> 1. Promote energy efficient building design and practices for all development projects and City-owned buildings 2. Pursue increasingly aggressive energy standards for new and existing buildings over time; establish enforcement mechanism for building energy standards 3. Require the use of hydronic or high efficiency energy systems in new and existing buildings, as appropriate, to enable transition to renewable energy sources such as ground-source heat pumps 4. Require new buildings to be solar hot water ready and develop policies and programs that make it easier for developers and building owners to incorporate solar hot water into new and existing buildings 5. Develop policies that promote the use of passive energy efficient design to minimise the lighting, heating and cooling demands of new buildings 6. Promote uptake of single family and semi-detached retrofit programs 7. Promote retrofits in multifamily, commercial, and industrial sector 8. Energy efficient process upgrades in commercial and industrial sector 9. Communications, social marketing and schools programs to reduce energy use
Energy Supply	<ol style="list-style-type: none"> 1. Work with LEC to expand into new buildings or service areas 2. Work with LEC to decarbonise and strategically phase in renewables 3. Work with LEC to utilize waste heat from various sources possibly including large existing buildings
Solid Waste	<ol style="list-style-type: none"> 1. Implement the Zero Waste Challenge; develop community programs on Zero Waste, the 3 Rs (reduce, reuse, recycle) and moving towards a broader conservation ethic regarding consumption and materials 2. Expand food waste diversion opportunities in the single-family, multi-family and commercial sectors 3. Work with Metro Vancouver and the private sector to increase the diversion of construction and demolition materials from disposal 4. Work with Metro Vancouver and other municipalities to ensure an adequate supply of land is available for recycling collection and processing 5. Encourage and support Metro Vancouver and the Province in establishing extended producer responsibility for waste and instituting packaging standards

This Climate and Sustainability Department Policy from the City of North Vancouver, has a well thought out introduction to the pain of municipal emissions. It really shows that policy documents are thought processes that lead to actions, and we need more of these implemented around the world.

2.1.4. CLIMATE, ENERGY AND SUSTAINABLE COMMUNITIES Getting traction on big new policy agendas involves establishing a compelling imperative for action, and underscoring the risks of inaction. Climate programs fail when they focus exclusively on greenhouse gases and climate change. Climate change impacts are slow moving and distributed around the globe. The benefits from deep emission reductions will be enjoyed by future generations and at a global level only if jurisdictions worldwide take collective action. Local governments with successful climate change programs have shown how emission reduction measures compliment other core priorities that deeply resonate with Council, staff and the community, e.g. Sudbury’s interest in community economic development or Portland’s commitment to liveability and integrated land use and transportation planning. The most successful emission reduction measures have, in fact, never been driven by a concern about climate change, e.g. London’s investment in public transit and tolls was to reduce the burgeoning costs of congestion, or Copenhagen’s deep emission reductions were won through a fight for energy security. The deep emission reductions in these cases have consolidated support for existing programs and inspired broader action. In attributing success and failure to municipal programs across in the US, Professor Michele Betsill from Colorado State, explains the best programs are inspired by strategic twist on an old philosophy: “Think Local. Act Local.”¹³ Fortunately, reducing greenhouse gas emissions can support the broader more integrated sustainability agenda envisioned by the City. Some of the priorities Council, staff and the community have identified that can be reinforced the Climate Plan include:

- Reducing congestion with a land form and transportation system that supports more efficient mobility.
- Improving affordability by increasing housing choice, improving energy performance, and reducing transportation costs.
- Strengthening the City’s asset management regime by building lighter, more strategic infrastructure.
- Developing a walking and bicycling infrastructure to support residents’ active lifestyles.
- Developing a complete, compact community that is safe, liveable and enables residents to work where they live.

3. Low Carbon Path The Low Carbon Path is comprised of a vision and overarching goals, in addition to sector-specific goals, policies and actions. The Low Carbon Path describes a compilation of policies and actions that will result in significant GHG emission reductions. To ensure that the policies and actions result in an emissions path that is both achievable and ambitious, HB Lanarc utilised GHG emission modeling techniques that forecast future GHG emissions levels based on hundreds of input variables developed through consultations with staff, Council and the community (see Appendix C and D for more details). The tables, maps and graphs are outputs from these modeling exercises. The description of the goals, policies and actions that comprise the Low Carbon Path is organized in the following sub-sections:

- **Community Overview:** This section provides a summary of the impact of the strategies across all sectors.
- **Land use planning:** Land use planning and design profoundly shape emissions in the transportation and buildings sectors as it determines travel patterns and building types.
- **Buildings:** One of the major emission sectors, it focuses on constructing and retrofitting buildings to be more efficient, and maximizing opportunities for onsite and building-scale renewable energy.
- **Transportation:** The other large emission sector, it focuses on making walking, bicycling and transit easier; reducing distance driven by cars; and improving emission performance of cars and transit.
- **Energy Supply:** This sector provides energy for building heating and cooling and equipment use. It focuses on decreasing carbon intensity of the energy supply through efficient systems and larger and onsite renewable energy opportunities.
- **Waste:** This sector involves reducing the volume of waste generated in the first place and diverting waste from disposal through composting and recycling. Note that significant energy and emissions from upstream product manufacture are not included in the community inventory but must be considered in terms of their global impact.
- **Urban Agriculture and Landscape:** This sector focuses on community gardening and urban agriculture to reduce emissions associated with today's food supply; and expanding urban trees and forests to improve carbon sinks. Detailed analysis of these potential elements is not included in the analysis but has been flagged for future opportunities and analysis to be completed by the City.
- **Education & Outreach:** This sector focuses on deepening and sustaining lifestyle and behavioural choices amongst key constituencies through education and outreach to support broader emission reduction policies, and increasing general awareness climate change and sustainable energy.

The municipal policy above shows well the use of headings to both identify pain points that need addressing as well as elaborating on how the policy document is structured according to community assets and programs.

Another sample draft policy below that government can use to begin the process of recovering damages from the runaway carbon footprint of unchecked corporate growth.

Excessive windfall Profits Policy

High profits from exponential growth of a business encourage big personal carbon footprints which are unjust to all others, particularly the vulnerable in drought-torn countries. At the least, there should be a "high emitter" tax system that pays into direct greenhouse gas removal technology.

Policy on Climate Damages Liability and Reimbursement: Here is the pain point:

Now that the 94 C40 Cities are exercising climate leadership and are engineering ways to meet their emissions gaps through policy, we need a way that compliance and liability issues can be determined so cities can protect their assets by covering the costs to do so. They need to be able to pay for direct removal of greenhouse gases by litigating the proponents that sell fossil fuels. This means that federal and territorial governments need to write the enabling legislation, or the judicial system needs to respect the science that is available which has supported this for decades and render some real justice. Below is a pioneering example of Provincial legislation around damages.

Here is the text of the Province of Ontario's planned Legislation

Preamble Climate change is real. It is already affecting Ontarians' lives as increased wildfires and flooding create significant and costly damage. Climate change threatens to make life more expensive as people and governments are required to pay for the harm it causes and for the protection of schools, roads, hospitals and homes from unprecedented flooding and other extreme weather events. Enhanced legal tools are required so that governments, businesses and individuals can ensure that coal, oil and gas producers contribute their fair share to paying for the harms to which their products contribute and for the necessary steps to prevent future harms. Therefore, Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

Interpretation 1 In this Act, "climate change" means a long-term change in the Earth's climate caused by the alteration of concentrations of greenhouse gas in the global atmosphere; ("changement climatique") "climate-related harms" means harms arising from climate change, including, without limitation, (a) economic loss or physical loss of property, infrastructure, structures, resources, or other assets, (b) the costs associated with obtaining and maintaining insurance reasonably required due to the risk of the losses described in clause (a), (c) death, injury, illness or other physical or psychological harms and the costs associated with treating or caring for persons suffering from them, (d) harm related to ocean acidification, (e) loss of land or damage to infrastructure due to rising sea levels, including slow-onset loss, (f) the costs of monitoring, researching and analysing the climate and the weather if the costs are reasonably incurred to provide information about the effects of climate change and appropriate adaptation measures, (g) the costs of responding to emergencies arising from natural disasters associated with climate change, (h) the costs of constructing, renovating, repairing or improving infrastructure in order to minimize further such harms and costs, and (i) the costs of carrying out public education campaigns to inform the public about reducing and avoiding such harms and costs; ("dommages liés au climat") "production", when used in respect of fossil fuels, includes exploration for sources of fossil fuels, exploitation of fossil fuels and sale of fossil fuels. ("production")

Strict liability for climate-related harms 2 (1) Every corporation, partnership, trust or other entity that is engaged in the production of fossil fuels and to which a globally detectable level of greenhouse gas emissions can be attributed, as determined in the regulations, is strictly liable for climate-related harms that occur in Ontario.

Level of greenhouse gas emissions (2) The determination of a producer's level of greenhouse gas emissions shall be based on, (a) emissions resulting from the producer's production of fossil fuels; and (b) emissions resulting from the use of those fossil fuels. **2 Same** (3) Even if the costs described in clauses (f) to (i) of the definition of "climate-related harms" in section 1 have not yet been incurred,

subsection (1) applies with respect to those costs if the court determines that they are reasonably required for the planning, initiation or completion of the activities mentioned in those clauses.

Evidentiary matters 3 (1) In determining whether particular harms or costs constitute climate-related harms and in determining the quantum of damages or costs related to them, the court may have regard to, (a) scientific or statistical information or modelling; (b) historical experience; and (c) information derived from relevant studies, including information derived from sampling.

Evidence re climate change causing particular events (2) In a case in which it is alleged that a particular weather event, flood or other event or series of such events was caused by climate change, evidence that climate change has doubled the likelihood of that type of event occurring is sufficient to demonstrate, on a balance of probabilities, that the event was caused by climate change or that climate change worsened the impact of the event.

Regulations 4 The Lieutenant Governor in Council may make regulations respecting, (a) the determination of the greenhouse gas emissions that can be attributed to a producer; and (b) the determination of whether a producer's greenhouse gas emissions level is globally detectable.

Commencement

5 This Act comes into force on the day it receives Royal Assent. Short title

6 The short title of this Act is the *Liability for Climate-Related Harms Act, 2018*

A tribunal system could be built into this legislation as well as job protection for professionals who report emissions infractions at or near their job site.

Province of BC:

Climate Planning & Action

CleanBC puts our province on a clear path to a cleaner, better future. Our 2018 plan includes significant actions that help us to use energy more efficiently and prevent waste, while making sure the energy we do use is the cleanest possible.

Highlights include:

- Ramping up funding for renovations and energy retrofits
- Making every new building constructed in B.C. “net-zero energy ready” by 2032
- Helping people afford zero-emission vehicles and making all new cars in B.C. zero-emission by 2040
- Reducing organic waste and turning it into a clean resource
- Helping industry reduce emissions with targeted incentives
- Launching new training programs for clean jobs of the future

These actions create new economic opportunities for people across the province while reducing our carbon pollution.

Together, these actions will get us 75% of the way to our 2030 target of 40% emissions reductions below 2007 levels. We will be working in 2019 to identify additional reductions to achieve the remaining 25%.

To learn about the modelling and analysis used to inform policies and estimate emissions reductions in CleanBC, see the methodology report:

In addition to the actions in CleanBC, we have several successful initiatives that we will continue to build on to support our progress, including:

- Carbon Tax
- Clean Energy Act
- Climate Action Charter
- Carbon Neutral Government
- Renewable and Low Carbon Fuel Requirements
- Investment in public transit

The B.C. government has enacted climate action legislation that frames B.C.'s approach to reducing emissions and transitioning to a low-carbon economy.

- Climate Change Accountability Act (CCAA, formerly GGRTA)
- Carbon Neutral Government Regulation
- Carbon Tax Act
- Carbon Tax Regulation
- Greenhouse Gas Industrial Reporting and Control Act (GGIRCA)
- Greenhouse Gas Emission Reporting Regulation
- Greenhouse Gas Emission Control Regulation
- Greenhouse Gas Emission Administrative Penalties and Appeals Regulation
- GGIRCA Regulations Consultation Process
- Clean Energy Act
- Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act
- Greenhouse Gas Reduction (Emissions Standards) Statutes Amendment Act
- Greenhouse Gas Reduction (Vehicle Emissions Standards) Act
- Local Government (Green Communities) Statutes Amendment Act
- Utilities Commission Amendment Act
- Energy Efficiency Act
- Building Code Amendments and Regulations

<https://www2.gov.bc.ca/gov/content/environment/climate-change/planning-and-action/legislation#vehicle-emissions-standards>

France's Strategy is worth a Review as well:

IMPROVING EVERYDAY LIFE FOR ALL FRENCH CITIZENS

Develop clean mobility that is accessible to everyone: financial compensation, called the "prime à la transition", will be introduced to encourage people to replace a vehicle, which does not meet the "Crit'Air" (Air Quality Certificate) standards, with a cleaner one.

Eradicate fuel poverty in ten years: in a bid to consign poorly insulated, energy-draining buildings to the past within a decade, the Government will offer help to tenants and owners struggling to pay their energy bills.

Use energy more responsibly: support will be lent to residential areas that would like to produce and use their own renewable energy sources (biogas, solar energy, etc.).

Make the circular economy a central feature of the energy transition: small businesses keen on making savings in terms of energy and resources will be given assistance so as to halve the amount of waste going to landfill and achieve 100% plastic recycling by 2025.

TURNING AWAY FROM FOSSIL FUELS AND COMMITTING TO A CARBON-NEUTRAL APPROACH

Generate carbon-free electricity: guidance solutions will be offered to the local areas concerned by the end of carbon-based electricity generation. Measures will aim at simplifying the development of marine and geothermal energy sources as well as anaerobic digestion.

Leave fossil fuels in the sub-soil: hydrocarbon exploration plans will be prohibited so that, by 2040, France no longer produces any oil, gas or coal.

Raise the price of carbon to put a fair price on pollution: taxation between diesel and petrol will be aligned and the price of carbon will go up. Low-income households will be given a helping hand in the form of the "energy voucher".

Achieve carbon neutrality by 2050: the Government will seek a balance between man-made emissions and the ability of ecosystems to absorb carbon. Achieving greenhouse gas emissions neutrality is an ambitious target. In world terms, only France, Sweden and Costa Rica have made this a requirement to be met.

Take greenhouse gas-emitting vehicles off the market by 2040: stopping sales of petrol or diesel cars will encourage car manufacturers to innovate and take the lead on this market.

MAKING FRANCE A LEADER IN THE GREEN ECONOMY

Design future solutions together with research: bolster schemes aimed at scientific cooperation and at enhancing appeal in the key disciplines for combating climate change.

Turn Paris into the capital of green finance: the Government will ensure the promotion of responsible and green finance certifications and give thought to how greater account can be taken of climate risks in financial regulation.

TAPPING INTO THE POTENTIAL OF ECOSYSTEMS AND AGRICULTURE

Harness agriculture: efforts will get underway to transform our agricultural systems with a view to curtailing emissions and improving the capture and storage of carbon in the ground.

Adapt to climate change: a new National Plan for Adaptation to Climate Change (PNACC) will be unveiled to provide French citizens with more effective protection against extreme weather events and to build resilience among the main economic sectors so that they can better withstand climate change. Stop importing products that contribute to deforestation: imports of products that are bringing about the destruction of the world's three major tropical rainforests (Amazonia, South-East Asia and Congo Basin) will be swiftly brought to a halt.

SCALING UP INTERNATIONAL ACTION ON THE CLIMATE

Support non-governmental climate advocates: France will welcome those who wish to rally to the climate cause and allow them to pursue their commitment during the COP23 and COP24 climate change conferences.

Assist developing countries: France pledges its full support for the recreation of the two operating entities of the Paris Agreement's financial mechanisms (Global Environmental Facility and Green Climate Fund).

Developing Frontiers Include:

Policy on Unwanted Residues- stewardship problems

Policy on Climate Denier Activity

Policy on Fees and Carbon Taxes

Chapter 4.

More on Professional Association Problems

The environmental degradation that we have globally was allowed to advance because of missing policy- governments were not listening to either professionals or their associations, but associations have not asserted enough to governments, because they rely upon them for recognition to operate and self govern. Self government has led to a suppression of self -evaluative criticism, publicly protective remedial actions directed by associations, within associations, and high environmental standards should have been favoured over overlooking unsanitary environmental practices because there was no mechanism to assert any kind of justice in the professional's estimation. Government legislation has almost categorically not gone far enough with emissions and effluent standards and has not encouraged formal measurement regimes until relatively recently. Now that we have measurement standards for voluminous amounts of environmental data, we are also faced with knowing how we have as a society, failed in the emissions landscape. It is time to place major policy emphasis on emissions in a formalized front line way that protects major actors like the professional class.

The cradle-to-grave issues that professionals should be surveyed every year and there should be a reporting act or reporting statute in governments to enable the intake of the annual reports by the professionals. The associations should have a policy set by a standing committee that has or causes these reports to be reviewed, catalogued, and conveyed usefully to governments. Government intake can be done at the regulatory level, either by the health or environmental, or even public safety bureaucratic levels. Environmental specialists or hygienists need to be deployed, and the agencies should have the power to fine and tax if there is no tribunal system in place.

Professionals should be including environmental improvement and remediation work in their annual professional practice declarations. All professional and para professional associations like Engineering, Chemistry, Agriculture, Geologists, Biologists, Technology, Medical, Legal that communicate with their associations, should be queried on environmental and regulatory issues found or encountered. Associations should know what the members are dealing with every year, just in case there is a special problem or systemic problems occurring. Associations can also work with tribunals on problematic environmental issues that arise through this new communications policy.

New General Discipline: Environmental Hygiene

The Climate and Environment damage situation actually is that Pollution in the environment has become ubiquitous, which simply means that multiple point sources, such as vehicles have accumulated and forced seemingly small amounts together to cause a collective danger. Frankly the hygiene problem has landed on this world like a ton of bricks. There is no choice but to handle this on a broad policy basis and an individual basis. Gone are the days that the term slippage would describe an acceptable phenomenon-slippage governance needs to be developed or amended. Where SF6, or methane were allowed say a 3% slippage factor in handling, the factor needs to be lowered by at least half to 5 fold-new technologies which enable this across the board must be found or developed, even if it is the deployment of portable oxidation for a site. In the atmosphere, the self cleansing mechanism of oxidation is inundated by a factor of five fold, indicating that we must exponentially reduce pollution pulses. Nothing is going to be more expensive than the cleanup from fossil fuel combustion, and it is there that we must learn our lesson about hygiene, no longer having a choice in the matter.

The Role of Schools and the Teaching Professionals

The children as consumers and voters-must be educated to the point that they are literally reticent to pollute or use toxic substances. There already exists a spectrum of teaching on this type of conservatism, it needs to go all the way. An example is the convenience of powerful chemicals, cleaning or otherwise, consumers should demand they be manufactured sustainably, and the field of more modest strength greener chemicals be taught in schools, with vinegar vs bleach as a leading example for cleaning. Teaching about environmental disaster history and also about environmental hygiene as a career path. Children should see disaster sites like third world dumps, and crop failures caused by climate change- it's the only way to ensure that abusers are kept in check because they all started as children.

Dumps

We all know now that these need to be regulated and governed by global standards. They off gas and leach a lot of compounds, but mainly methane. Professional associations need to reach into these areas

and work with the affected people if possible. Water, food, shelters and environmental hygiene in second and third world nations need a concerted effort by the engineering and chemical professions to leapfrog these societies' hygiene issues.

Academia

The world of Academia missed developing the advanced environmental specialty in engineering. This stopped at a Baccalaureate degree and still needs graduate level courses, mainly in the areas of hygiene science, remediation science, and societies need hygienists who can actively develop sponsor legislation through a permanent legislative communications axis. A legislative development bureau in governments that is specifically dedicated to advancing environmental, health and safety legislation with a dedicated act governing the issue discovery process, recording, database, and assessment specially geared to enacting legislation. This needed to be a career track with a PhD Major stream encouraged.

Legislative protection addressing a Professional engaged in a Protective Act or Acts should be enacted. No person or professional in the public or private sector should be fired for an environmentally protective act no matter how costly the protection is or was. It should be very difficult, indeed virtually impossible in law, to terminate such a professional and even simple amendments to the Good Samaritan Act with this in mind would work. Good intentions and remedial acts can cost money, but society must recognize that money should not be the first consideration when it comes to environmental hygiene, and it needs to be subsidized. Professionals should, under the legislation, be able to invoke a clause which triggers a governmental investigation without *Any* fear of losing employment. Now that Engineers and Architects have begun to declare a climate emergency globally, and are moving to protect, backing them up with job protection and a judicial system would be appropriate.

Call it the professional stewardship Act and give all professionals the right to invoke professional stewardship protection where in a situation, they can advise their employer of a stewardship default and be protected by statute from being terminated for any reason until a tribunal has reviewed the case and made a determination on this default case. Tribunals can be empowered to rule that any form of remediation be taken at the polluter's expense, levy fines, assess taxes for ongoing issues.

Climate Emergency Declaration Text examples

The text of these Engineering Associations' declarations are great for other associations to borrow from and also are proof that governments need to move to protect every professional practice from termination when it comes to their environmental protection efforts. These are rarely ever going to be nuisance cases. In fact, if they are not addressed, the inconvenience, as we are seeing with climate change, is far far worse. Prevention is a fundamental principle of hygiene.

“We will seek to:

- Raise awareness of the climate and biodiversity emergencies and the urgent need for action amongst our clients, collaborators and supply chains.

- Advocate for faster change in our industry towards regenerative design practices and a higher Governmental funding priority to support this.
- Establish climate and biodiversity mitigation principles as a key measure of our industry’s success: demonstrated through awards, prizes and listings.
- Share knowledge and research to that end on an open source basis.
- Evaluate all new projects against the aspiration to contribute positively to mitigating climate breakdown, and encourage our clients to adopt this approach.
- Upgrade existing buildings for extended use as a more carbon efficient alternative to demolition and new build whenever there is a viable choice.
- Include life cycle costing, whole life carbon modelling and post occupancy evaluation as part of the basic scope of work, to reduce both embodied and operational resource use.
- Adopt more regenerative design principles in practice, with the aim of providing building services engineering design that achieves the standard of net zero carbon.
- Collaborate with clients, architects, engineers and contractors to further reduce construction waste.
- Accelerate the shift to low energy and nearly net zero energy in all our work.
- Minimize wasteful use of resources in our building services engineering design, both in quantum and in detail.”

“We will seek to:

- Evaluate all new projects against the environmental necessity to mitigate climate breakdown, and encourage our clients to adopt this approach.
- Advocate for faster change in our industry towards regenerative design practices, that respect ecological limits whilst enabling socially just access to resources and services, and a higher governmental funding priority to support this.
- Advocate for and undertake 21st century economic assessments that take a whole-of-system, whole-of-life approach, and take into account the implications of expanding beyond ecological ceilings and failing to meet fundamental human rights and social justice obligations.
- Join with other professions and work with government to develop a stronger and more comprehensive whole-of-government response to the climate emergency.
- Collaborate with policy makers and planners, contractors and clients to further these broad outcomes.
- Learn from and collaborate with First Nations to adopt work practices that are respectful, culturally sensitive and regenerative.
- Upgrade existing infrastructure and technology for extended use when the opportunity arises for carbon emissions reduction.

- Accelerate the shift to circular economy principles (e.g. minimize wasteful use of resources) and low embodied carbon materials in all our work.
- Implement climate change and biodiversity mitigation principles.
- Raise awareness of the climate and biodiversity emergencies and the urgent need for action in our organizations and networks.
- Track and share stories of success as individuals and companies make climate positive choices, building pride and solidarity in the engineering sector and our role in delivering a healthy planet.
- Share knowledge and research to that end, on an open source basis.

We acknowledge that First Nations peoples have long espoused the cultural, social, economic and environmental benefits embedded in the holistic relationship of Caring for Country. We respect and embrace this perspective.”

Chapter 5. International Policy:- A major Weakness and Liability

We have several countries which are tax havens, which go above and beyond the excesses of tax loopholes. Tax evasion means that profits go to high GHG footprint individuals as shareholders, CEOs and Directors. Here is a list of countries contributing to those high-footprint individuals and the black market of carbon abuse they operate: A notice to these people: The only way that you will ever be justified is if you go carbon negative, pay your damages, and stay carbon neutral. If this offends anyone, I am happy to do it and add the request that you stop and think about how you are hurting your own interests when you emit-frankly you are killing yourself, too.

The Tax Haven Hit List

1. Luxembourg

Luxembourg is a small European country that borders Belgium, France, and Germany with a population of 550,000. Luxembourg's tax haven status comes from its business-friendly laws that allow international companies to park portions of their business there to dodge billions in tax bills. About 33% of U.S. Fortune 500 companies have subsidiaries in Luxembourg, according to a 2014 report from Citizens for Tax Justice and U.S. PIRG Education Fund.

Amazon (NASDAQ:AMZN), for instance, has its official European headquarters in Luxembourg and was funneling all sales it made in Europe through its Luxembourg office. The online retailer ended the practice in 2015, instead booking sales with localized branches, a move that "could significantly boost the firm's tax bill in many European countries," according to The Wall Street Journal. Amazon made

the changes after the European Union opened an investigation into the tax practices of this and other companies.

2. Cayman Islands

The Cayman Islands offer "probably the biggest [tax] loophole now for individuals as well as the multinational corporations," said Crystal Stranger, president of business tax firm 1st Tax. The Caymans are one of "several countries with laws that allow a corporation to be formed and retain assets without paying tax, and when held for business purposes this is perfectly legal and not a tax avoidance strategy." Stranger added, however, that the tax advantages and implications are complex, and probably best handled with the help of a professional.

The tax benefits can be worth it, as many businesses from the U.S. and around the world have assets in the Caymans. Banking assets in the Caymans are equal to a 15th of the world's total \$30 trillion in banking assets, reported The Guardian. Fortune 500 companies with subsidiaries in the Cayman Islands include Wells Fargo, Pfizer, Pepsi, and Marriott.

3. Isle of Man

Isle of Man is termed a "low-taxed financial center," thanks to its lack of capital gains tax, inheritance tax, corporation tax or stamp duty. The island situated between England and Ireland also carries low income tax, with the highest rates at 20% and total amount capped at 120,000 pounds, reported U.K. finance outlet MoneyWeek.

Isle of Man also offers great benefits for pensions. "Many international companies have their employee pension plans held in accounts in this small country due to asset protection and the ability to take benefits from the age of 50 onwards," said Stranger. Only employer-sponsored retirement accounts will benefit from this lax tax code, though, as "individually held international mutual funds are taxed heavily under U.S. tax law," Stranger added.

4. Jersey

Located between England and France, Jersey's status as a tax haven rose mid-20th century when many wealthy British citizens moved their wealth to the island. Britain's inheritance tax on amounts over 1 million pounds was 80%, compared to the self-governed Channel Island of Jersey, which had no inheritance tax.

Today, there is still no inheritance or capital gains tax, and Jersey has a standard corporate tax rate of 0% -- with the exception of taxes levied on financial service, utility, and property companies. This has made Jersey a popular tax haven for the U.K., housing \$5 billion worth of assets per square mile.

5. Ireland

Ireland is often referred to as a tax haven, despite Irish officials asserting that their country is not one. Recently, Ireland made headlines when U.S. drug company Pfizer merged with Ireland-based Allergan, with plans to reheadquarter in Ireland, reported the Los Angeles Times. This tax inversion could help Pfizer dodge taxes on as much as \$148 billion in profits held internationally, according to a report from Americans for Tax Fairness.

Another giant American-founded company that is incorporated in Ireland is Apple, which has booked over \$180 billion in offshore profits through its international subsidiaries, dodging \$59.2 billion in U.S. taxes, according to the Citizens for Tax Justice report. They aren't alone; over a quarter of Fortune 500 companies had subsidiaries in Ireland in 2014, including Google.

6. Mauritius

Mauritius is an island located in the Indian Ocean several hundred miles east of Madagascar, and is a popular gateway for foreign investments, particularly those directed to India. Mega-corporations with Mauritius subsidiaries include JPMorgan Chase, Citigroup, and Pepsi, reported The Wall Street Journal.

Mauritius does levy a 15% corporate tax, but companies that are tax residents of the island can take advantage of tax breaks granted through double tax treaties. Additionally, capital gains and interest are not taxed in Mauritius, making it an attractive tax haven.

7. Bermuda

Bermuda has long been a popular tax haven, said Ravi Ramnarain, an independent certified public accountant. "Wealthy individuals who transfer their assets to these countries could benefit from the fact that it may be deemed illegal (from a general standpoint) for the bankers in these offshore jurisdictions to disclose the identities of investors to third parties," Ramnarain said.

Big businesses also turn for low taxation to Bermuda, which levies no corporate tax at all, according to Deloitte. Just over a quarter of all Fortune 500 companies had subsidiaries in Bermuda in 2014, according to the Citizens for Justice report. Google, for instance, has routed foreign profits to Bermuda through subsidiaries in Ireland and the Netherlands, a move which could save the company as much as \$2 billion a year in taxes, reported Bloomberg.

8. Monaco

Monaco is less than a square mile and has just 36,000 residents. This tiny principality has a giant perk, however: it hasn't charged its residents income tax since 1869. Those that can claim Monaco as their primary nation of residence will keep all of the money they earn.

This has drawn some of the world's wealthiest to the tiny country of Monaco, as one in three residents is a millionaire, reported CNN Money. Monaco's popularity as a home to the super-rich has also made it the most expensive real estate market in the world with \$1 million buying just 160 square feet,

reported The New York Times. Taxes for corporations are also low, drawing in corporations like rental car company Avis Budget Group to set up subsidiaries in Monaco.

9. Switzerland

Switzerland's combination of low taxes and a bank system that protects account holders' secrecy above all else have made it a popular destination for funds leveraged overseas to enjoy lower taxes.

This has made Switzerland a popular financial center for individuals and corporations alike. Geneva, the country's capital, is the 13th-largest financial center in the world and one of the most broadly and deeply established in the world, according to the most recent The Global Financial Centres Index from Long Finance.

U.S. companies have taken advantage of Switzerland's tax benefits for years. In 2010, American multinational corporations reported \$47 billion in profits to Swiss subsidiaries, according to the Citizens for Tax Justice report. Just under 30% of Fortune 500 companies have subsidiaries in Switzerland, including major businesses like Marriott, Ecolab, Pepsi, Stanley Black & Decker, and Morgan Stanley.

10. Bahamas

The Bahamas are another top tax haven, thanks to the lack of capital gains tax, inheritance tax, personal income tax, and gift tax. "All of these are extremely beneficial for the wealthy, especially to older wealthy people looking to limit the tax on their inheritance or to start gifting money," said Hryck.

These tax advantages can make the Bahamas an attractive tax haven for U.S. corporations, which reported \$10 billion profits to Bahamas subsidiaries in 2010, equal to 123% of the country's own gross domestic product that same year, according to the Citizens for Tax Justice. Wells Fargo Bank and energy provider AES are a couple of the 5% of Fortune 500 companies with subsidiaries in the Bahamas.

(This article originally appeared on GoBankingRates.)

Examples of tax loopholes that encourage high carbon footprint individuals to continue their excesses.

The Broadbent Institute calls on the federal government to crackdown on tax loopholes and offshore tax havens used by the country's wealthiest Canadians. These "Filthy Five" tax loopholes contribute to growing inequality in Canada and starve the government of the revenue much needed for health and social programs.

1. Partial Inclusion of Capital Gains loophole

2. Employee Stock Option loophole
3. Business Entertainment Expense loophole
4. Dividend Gross-up and Tax Credit loophole
5. Offshore Tax Havens

At this late date of winter 2019, it would seem that the laws of physics under which we live combine to restrict unchecked growth, thereby being a constraint on mainly uncontrolled capitalism, which still abounds on the Earth. Hybrid societies combining less aggressive versions of capitalism and also less aggressive socialism is where we will find our planet when it is settled in light and life—that is— if we are not too late in curbing the global emissions that can kill us all.

Professional Associations are now close to declaring climate emergencies to model the urgency for governments. Here is a position paper from the Association of Professional Engineers and Geoscientists of BC.

APEGBC’s Position on Human-Induced Climate Change Final Council-approved version
Version date: September 08, 2016 **Position A.** APEGBC accepts that there is strong evidence that human activities, in particular activities that emit greenhouse gases, are contributing to global climate change. **B.** APEGBC Registrants¹ have the potential to influence greenhouse gas emissions through their professional activities, and are expected to consider the impact of their work on the climate. ¹ For the purposes of this paper, the term “APEGBC Registrants” includes: professional engineers, professional geoscientists, provisional members, licensees, limited licensees, engineers-in-training, and geoscientists-in-training. **Greenhouse gas emissions are changing the climate** Scientific evidence shows a global warming trend that has accelerated over the past 100 years. Further, multiple lines of evidence show that emissions of greenhouse gases—in particular carbon dioxide and methane—from human activities are the primary driver of this trend (IPCC 2014). Data from the US National Oceanographic and Atmospheric Administration show that nine of the ten warmest years on record have occurred since the year 2000 (NOAA 2015). Projections based on global climate models indicate that global temperatures will continue to rise (IPCC 2014). Climate scientists have confidence in the ability of these models to produce credible, quantitative projections of the future climate, because they are based on fundamental physical principles and have consistently been shown to reproduce observed features of the current climate and past climate changes. The scientific community has determined that in order to stabilize the climate, greenhouse gas emissions must be reduced by 40%–70% from current levels by mid-century (IPCC 2014). The Province of British Columbia has legislated targets of 33% reductions by 2020 and 80% reductions by 2050 from a 2007 baseline (Province of BC 2007). The BC Government continues to develop and refine climate change legislation and policies in consultation with a broad range of stakeholders, including local governments, professional associations such as APEGBC, and the general public. Significantly, the December 2015 Paris Climate Conference achieved a global framework agreement on climate action, with more than 190 countries recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet, and that deep reductions in global greenhouse gas emissions will be required. As outlined in APEGBC’s first position paper on climate change (APEGBC 2014), a range of regional climate

impacts are predicted in British Columbia, including changes in precipitation patterns—particularly the intensity, duration and frequency of precipitation events—and warmer summer and winter temperatures. Increased risks are expected as a result of these changes, including risks related to flooding, forest fires, air-pollution events, and supply of fresh water. Adaptation measures will be required to increase infrastructure resilience and to Page 2 of 4 protect the public from climate change. APEGBC’s first position paper describes the evolving role for APEGBC Registrants related to adapting infrastructure to a range of potential future climate patterns. Adaptation should also be combined with actions that mitigate human-induced climate change. **Engineers and geoscientists can contribute to mitigating human-induced climate change through their professional activities** At its core, climate change mitigation includes actions to reduce the quantity of greenhouse gas emissions released into the atmosphere, in particular carbon dioxide from the combustion of fossil fuels. Mitigation will require moving toward a low-carbon economy and replacing fossil fuels with renewable energy, where possible. Mitigation can also refer to sequestering carbon dioxide from the atmosphere, or finding ways to store carbon dioxide (or other greenhouse gases) that would otherwise be released. The work of engineers and geoscientists can positively influence how energy and resources are produced and used in their projects, thus helping to reduce greenhouse gas emissions. APEGBC Registrants work in a wide variety of different roles—as employees, employers, researchers, academics, consultants, and in regulatory and managerial positions—and they often work on teams with other specialists. Although engineers and geoscientists may not be the implementers of strategic decisions that influence energy use and greenhouse gas emissions for the projects they work on, they are encouraged to consider how the impact of climate change may be relevant in their engineering and geoscience analysis and in the recommendations that they provide to their clients on engineering and geoscience issues. These expectations are highlighted in the APEGBC Code of Ethics and the *APEGBC Professional Practice Guidelines – Sustainability* (V1.1, revised 2016). In many cases, the strong links between renewable energy, energy efficiency, and greenhouse gas emissions reduction mean that there is a potential business case for solutions with lower associated climate impacts, especially when the full project life costs and benefits are accounted for. As government, industry and public awareness of climate change increases, APEGBC Registrants will be increasingly expected to assess the potential climate impacts of projects that they are working on, and likely will be expected to offer alternatives that could reduce project greenhouse gas emissions. In fact, many engineers and geoscientists are already influenced by Provincial regulations and guidelines related to climate change adaptation and greenhouse gas emissions mitigation (BC Ministry of Environment 2015). **Expectations and Resources for APEGBC Registrants** Professional activities of APEGBC members are, in many cases, constrained by the requirements of their clients, as well as by the existing codes, standards, legislation, and regulations that govern their areas of work. Engineers and geoscientists would not be expected to take on responsibilities or liability where they would not be reasonably expected to have the appropriate knowledge or expertise to advise clients on climate change-related matters. The association and its standing committees will continue to contribute to the development of new and existing regulatory tools, as well as to provide guidance for its members and to advocate for the professions. The *APEGBC Professional Practice Guidelines – Sustainability* may serve as a valuable reference for APEGBC Registrants. The guidelines provide a high-level process to follow that can assist APEGBC Registrants in fulfilling their responsibilities related to society and Page

Air quality Statutes- A full failure of standard setting policy

These statutes are a global failure and require a full overhaul asap. In Canada’s urban population, over 23% of all people are on medication for a lung condition. All Federal and Provincial or territorial

statutes are set to allow the inundation of the natural background hydroxyl radicals by 500% That means the statutes should lower total aggregate air pollutants standards by 80%. I don't know what the air quality monitoring professionals have been doing but it was not protecting the public. They should be held liable and forced to amend the statutes and regulations. This is now an international calamity.

Chapter 6. Provincial Level Legislation Examples

This is a very long chunk of legislation, well worth the review.

CLIMATE CHANGE ACCOUNTABILITY ACT

[SBC 2007] CHAPTER 42

Assented to November 29, 2007

Contents

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Definitions

- 1 In this Act:

"carbon neutral", in relation to a public sector organization for a particular period, means that the public sector organization has complied with the obligations under section 6 (1) [requirements for achieving carbon neutral status] to

- (a)pursue actions to minimize the relevant greenhouse gas emissions for that period, and
- (b)net those greenhouse gas emissions to zero in accordance with that section;

"greenhouse gas" means any or all of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and any other substance prescribed by regulation;

"offset unit" has the same meaning as in the Greenhouse Gas Industrial Reporting and Control Act;

"Provincial government" means that part of the government reporting entity referred to in paragraph (a) [government as reported through the consolidated revenue fund] of the definition of "government reporting entity" in section 1 (1) of the Budget Transparency and Accountability Act;

"PSO greenhouse gas emissions", in relation to a public sector organization, means the PSO greenhouse gas emissions for which the organization is responsible under the regulations;

"public sector organization" means any of the following:

(a) the Provincial government;

(b) an organization or corporation that is not part of the Provincial government but is included within the government reporting entity under the Budget Transparency and Accountability Act, unless excluded by regulation under this Act;

(c) any other public organization or corporation included by regulation.

"registry" has the same meaning as in the Greenhouse Gas Industrial Reporting and Control Act;

"retire" has the same meaning as in the Greenhouse Gas Industrial Reporting and Control Act.

Part 1 — BC Greenhouse Gas Emissions Targets

BC greenhouse gas emissions — target levels

2 (1) The following targets are established for the purpose of reducing BC greenhouse gas emissions:

(a) [Repealed 2018-32-2.]

(a.1) by 2030 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 40% less than the level of those emissions in 2007;

(a.2) by 2040 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 60% less than the level of those emissions in 2007;

(b) by 2050 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 80% less than the level of those emissions in 2007.

(2) By December 31, 2008, the minister must, by order, establish BC greenhouse gas emissions targets for 2012 and 2016.

(3) The minister may, by order, establish BC greenhouse gas emissions targets for other years or periods.

(4) The minister may, by order, establish greenhouse gas emissions targets for individual sectors.

Determination of 2007 baseline level

3 As soon as reasonably practicable, the minister must determine and make public the 2007 BC greenhouse gas emissions level for the purpose of section 2.

Progress reports on reducing BC greenhouse gas emissions

4 Beginning with a report on 2008 BC greenhouse gas emissions, and continuing with a report for every subsequent even-numbered calendar year, the minister must, as soon as reasonably practicable for each year, make public a report respecting

- (a) a determination of the BC greenhouse gas emissions level for the relevant calendar year,
- (b) the progress that has been made toward achieving the targets under section 2,
- (c) the actions that have been taken to achieve that progress, and
- (d) the plans to continue that progress.

Part 1.1 — Preparing for Climate Change

Reports on climate change risks and progress

4.1 Beginning with a report for the 2020 calendar year, and continuing with a report for every subsequent even-numbered calendar year, the minister must prepare and make public, as soon as reasonably practicable for each year, a report respecting

- (a) a determination of the risks to BC that could reasonably be expected to result from a changing climate,
- (b) the progress that has been made toward reducing those risks,
- (c) the actions that have been taken to achieve that progress, and
- (d) the plans to continue that progress.

Part 2 — Carbon Neutral Public Sector

Targets for carbon neutral public sector

5 (1) Each public sector organization must be carbon neutral for the 2010 calendar year and for each subsequent calendar year.

(2) and (3) [Repealed 2014-29-59.]

Requirements for achieving carbon neutral status

6 (1) In order to be carbon neutral for a calendar year, a public sector organization must

- (a) pursue actions to minimize its PSO greenhouse gas emissions for the calendar year,

(b) determine its PSO greenhouse gas emissions for that calendar year in accordance with the regulations, and

(c) no later than the end of June in the following calendar year,

(i) in the case of a public sector organization that is not the Provincial government, enter into an agreement described in subsection (4), and

(ii) in the case of the Provincial government, ensure that the minister, on behalf of the Provincial government, directs the director under the Greenhouse Gas Industrial Reporting and Control Act to retire offset units sufficient to net the Provincial government's PSO greenhouse gas emissions to zero.

(2) [Repealed 2014-29-59.]

(3) The Provincial government must acquire and deposit to the government's holding account in the registry offset units sufficient to ensure that public sector organizations are able to meet their obligation to be carbon neutral for a calendar year.

(4) A public sector organization and the minister, on behalf of the Provincial government, must enter into an agreement that sets out the terms and conditions the minister considers necessary or advisable, and that are consistent with the directives of Treasury Board, on which the minister will direct the director under the Greenhouse Gas Industrial Reporting and Control Act to retire offset units on behalf of the public sector organization.

(5) On the direction under this section of the minister, the director under the Greenhouse Gas Industrial Reporting and Control Act must retire offset units from the government's holding account.

Carbon neutral action reports — Provincial government

7 (1) Beginning with a report for the 2008 calendar year, and continuing with a report for every subsequent calendar year, the minister must prepare, and make public no later than the end of June of the following calendar year, a carbon neutral action report in accordance with this section.

(2) [Repealed 2014-29-59.]

(3) The carbon neutral action reports for 2010 and subsequent calendar years must include the following:

(a) a description of the actions taken by the Provincial government in the relevant calendar year to minimize its PSO greenhouse gas emissions;

(b) its plans to continue minimizing those emissions;

(c) a determination of its PSO greenhouse gas emissions for the relevant calendar year;

(d) a statement of the offset units retired on behalf of the Provincial government in relation to those emissions;

(e) any other information required by regulation.

Carbon neutral action reports — other public sector organizations

8 (1) Beginning with a report for the 2008 calendar year, and continuing with a report for every subsequent calendar year, each public sector organization, other than the Provincial government, must prepare, and make public no later than the end of June of the following calendar year, a carbon neutral action report in accordance with this section.

(2) [Repealed 2014-29-59.]

(3) The carbon neutral action reports for 2010 and subsequent calendar years must include the following:

(a) a description of the actions taken by the public sector organization in the relevant calendar year to minimize its PSO greenhouse gas emissions;

(b) its plans to continue minimizing those emissions;

(c) a determination of its PSO greenhouse gas emissions for the relevant calendar year;

(d) a statement of the offset units retired on behalf of the public sector organization in relation to those emissions;

(e) any other information required by regulation.

Obligations may be combined

9 If satisfied that it is appropriate to do so, the minister may, by order, permit or require 2 or more public sector organizations to be treated as a single organization for the purposes of this Part.

Part 3 — General Provisions

Repealed

10 [Repealed 2014-29-59.]

Making documents public

11 If a person or public sector organization is required to make a document public under this Act, the person or public sector organization meets that obligation by making the document available to the general public in a reasonable manner, which may include by electronic means.

Regulations

12 (1) The Lieutenant Governor in Council may make regulations referred to in section 41 of the Interpretation Act.

(2) Without limiting subsection (1), the Lieutenant Governor in Council may make regulations as follows:

(a) prescribing a substance, whether it is normally gaseous or not, as a greenhouse gas;

- (b)prescribing organizations or corporations as being included within, or excluded from, the definition of "public sector organization";
- (b.1)prescribing categories of information that public sector organizations must provide to the minister for use in preparing the minister's public report under section 4.1, the timeframes in which that information must be provided and circumstances in which public sector organizations are exempt from providing that information;
- (c)respecting the form of measurement in which greenhouse gas emissions are to be expressed for the purposes of this Act;
- (d)respecting what are deemed to be BC greenhouse gas emissions and the basis on which and the methodology by which these greenhouse gas emissions and their levels are to be determined including, without limiting this, respecting accounting for offset units in the determination of BC greenhouse gas emissions;
- (e)authorizing the minister to revise previously determined BC greenhouse gas emission levels and establishing criteria that must be applied by the minister in doing this;
- (f)respecting what are deemed to be PSO greenhouse gas emissions for which a public sector organization is responsible and the methodology by which these greenhouse gas emissions and their levels are to be determined;
- (g)[Repealed 2014-29-62.]
- (h)providing exemptions from the obligations under section 6 [requirements for achieving carbon neutral status];
- (i)requiring reports under section 7 or 8 [carbon neutral action reports] to be verified in accordance with the regulations;
- (j)providing exemptions from the reporting obligations under section 8 [carbon neutral action reports] in relation to a calendar year;
- (k)respecting agreements under section 6 (4);
- (l)establishing additional reporting requirements in relation to greenhouse gas emissions and related matters;
- (m)respecting the preparation of reports required under this Act including, without limiting this, respecting the timing, form and content of those reports, and respecting records that must be maintained in relation to these reports and access that must be provided to those records;
- (n)defining words and expressions used but not defined in this Act;
- (o)respecting any other matter for which regulations are contemplated by this Act.

(3) A regulation under this Act may do one or more of the following:

- (a) delegate a matter to a person;
- (b) confer a discretion on a person;
- (c) make different regulations in relation to
 - (i) different matters or circumstances or different classes of matters or circumstances, and
 - (ii) different public sector organizations or classes of public sector organizations.

(4) A regulation under this Act may adopt by reference, in whole, in part or with any changes considered appropriate, a regulation, code, standard or rule

- (a) enacted as or under a law of another jurisdiction, including a foreign jurisdiction, or
 - (b) set by a provincial, national or international body or any other code, standard or rule making body,
- as the regulation, code, standard or rule stands at a specific date, as it stands at the time of adoption or as amended from time to time.

Consequential Amendment

[Note: See Table of Legislative Changes for the status of section 13.]

Section(s)	Affected Act
13	Hydro and Power Authority Act

GREENHOUSE GAS INDUSTRIAL REPORTING AND CONTROL ACT [SBC 2014] CHAPTER 29 Assented to November 27, 2014

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Definitions

1 (1) In this Act:

"accepted emission offset project" means an emission offset project accepted by the director under section 9 [emission offset projects];

"account" means an account in the registry;

"administrative agreement" means an agreement under section 16 (2) [registry operated outside government];

"appeal board" means the Environmental Appeal Board under the Environmental Management Act;

"attributable", in relation to greenhouse gas emissions, means attributable under the regulations to an industrial operation;

"carbon dioxide equivalent" means the mass of carbon dioxide that would produce the same global warming impact as a given mass of another greenhouse gas, as determined in accordance with the regulations;

"compliance account" means an account described in section 13 (3) (b) [registry];

"compliance obligation" means the requirement imposed under section 6 (1) on regulated operations;

"compliance period" means the period prescribed for the purposes of section 6 [compliance obligation];

"compliance report" means a report under section 7 (1) [compliance reports] or a supplementary report under section 7 (3);

"compliance unit" means an offset unit, a funded unit, an earned credit or a recognized unit;

"conservation officer" has the same meaning as in the Environmental Management Act;

"contingency account" means the account described in section 13 (4) (c) [registry];

"director" means an employee appointed under the Public Service Act who is designated as the director for the purposes of this Act;

"director's protocol" means a protocol established under section 10 [director's protocols];

"earned credit" means a compliance unit described in section 12 [earned credits];

"emission limit", in relation to a regulated operation, means the applicable emission limit under section 5 [regulated operations' emission limits];

"emission report" means a report under section 3 (1) [emission reports] or a supplementary report under section 3 (3);

"facility" includes

(a) all buildings, structures, stationary items and equipment that

(i) are located or used primarily on a single site, contiguous sites or adjacent sites,

(ii) are controlled and directed by the same person, and

(iii) function as a single integrated site,

(b) wastewater collection and wastewater treatment systems that treat wastewater from a facility, if the systems are on or adjacent to a site or sites referred to in paragraph (a) (i) and are controlled and directed by the person referred to in paragraph (a) (ii),

(c) storage of petroleum or natural gas products at a terminal that receives petroleum or natural gas products from a facility, if the terminal is adjacent to a site or sites referred to in paragraph (a) (i) and controlled and directed by the person referred to in paragraph (a) (ii), and

(d) mobile equipment, used primarily at the site or sites referred to in paragraph (a) (i), that functions as part of the integrated site;

"foreign jurisdiction" means a jurisdiction outside Canada;

"funded unit" means a compliance unit described in section 11 [funded units];

"greenhouse gas" has the same meaning as in the Climate Change Accountability Act;

"holding account" means an account described in section 13 (3) (a), (4) (a), (5) or (6) [registry];

"industrial operation" means one or more facilities, or a prescribed activity, to which greenhouse gas emissions are attributable;

"inspector" means a person, or a person in a class, designated under section 21 [inspectors];

"issue", in relation to an offset unit, a funded unit or an earned credit, means issue by the director or issue by the registry administrator on the direction of the director;

"offset unit" means a compliance unit described in section 8 (1) [offset units];

"operator", in relation to an industrial operation, means a person considered under the regulations to be the operator of the industrial operation;

"project proponent" means a person who

(a)meets the prescribed criteria, if any, and

(b)submits to the director, directly or through a validation body, a plan for an emission offset project that the person proposes to or does carry out;

"project report" means a report described in section 8 (1) [offset units] that meets the prescribed requirements;

"recognized unit" means a unit of another jurisdiction that under the regulations is, or is deemed to be, the equivalent of an offset unit for the purpose of meeting compliance obligations;

"registry" means the registry established for the purposes of section 13 [registry];

"registry administrator" means the person responsible for administering the registry in accordance with this Act and the regulations, and if applicable, an administration agreement;

"regulated operation" means a reporting operation that is in a class set out in column 1 of the schedule;

"reporting operation" means an industrial operation that is prescribed as a reporting operation;

"reporting period" means the period prescribed for the purposes of section 3 (1) [emission reports];

"retire" means,

(a)in relation to an offset unit, a funded unit or an earned credit, the transfer of the unit into the retirement account by the director or by the registry administrator on the direction of the director, or

(b)in relation to a recognized unit, retirement of the unit in accordance with the regulations;

"retirement account" means the account described in section 13 (4) (b) [registry];

"schedule" means the Schedule of Regulated Operations and Emission Limits;

"technology fund" means a not-for-profit corporation that

- (a) is outside the government reporting entity,
- (b) has a board of directors that includes persons with expertise in clean technologies or the commercialization of new products, processes, services or technologies,
- (c) publishes an annual report that includes financial statements and any prescribed information,
- (d) is considered by the minister to have an objective, fair and rigorous process, independent of government, the applicant and the technology fund, for reviewing funding applications,
- (e) is focused on accelerated market adoption of innovative clean technologies that result in lower greenhouse gas emissions, and
- (f) meets prescribed criteria;

"validation body" means a person that meets the prescribed requirements;

"validation statement" means a statement, in accordance with section 9 (1) [emission offset projects], of a validation body respecting the plan for an emission offset project, which statement includes the prescribed information, statements and signatures;

"verification body" means a person that meets the prescribed requirements;

"verification statement" means a statement of a verification body respecting an emission report, a compliance report or an accepted emission offset project report, which statement includes the prescribed information, statements and signatures.

(2)[Not in force.]

Part 2 — Emission Reporting

Non-reporting operations

2 (1) If required by the regulations, for each reporting period, the operator of an industrial operation that was not a reporting operation in the previous reporting period, and would be a reporting operation but for the level of its greenhouse gas emissions, must calculate, in accordance with the regulations, the greenhouse gas emissions of the industrial operation to determine whether it is a reporting operation for the reporting period.

(2) An industrial operation that is not a reporting operation for a reporting period must, if required by the regulations,

- (a) maintain the prescribed records of the determination under subsection (1) for the prescribed period and produce those records on request of an inspector, and
- (b) provide information to the director as required by the regulations.

Emission reports

3 (1) For each reporting period, in accordance with the regulations, the operator of a reporting operation must ensure that a report respecting the following is submitted to the director:

- (a) the greenhouse gas emissions attributable to the operation for the reporting period;
- (b) the prescribed information or matters.

(2) If required by the regulations, the operator of a reporting operation must ensure that a verification statement in relation to the emission report is prepared, and submitted to the director, in accordance with the regulations.

(3) The operator of a reporting operation must ensure that a supplementary report is submitted to the director within the prescribed period after the operator becomes aware that

- (a) information in a previous report under this section did not completely and accurately disclose the information required to be included in the report, or
- (b) information required to be reported in a previous report has changed.

(4) If required by the regulations, the operator of a reporting operation must ensure that a verification statement in relation to a supplementary report is prepared, and submitted to the director, in accordance with the regulations, and, in any other case, the director may require that the operator have a verification statement in relation to the supplementary report prepared in accordance with the regulations and submitted to the director by the date specified by the director.

(5) Subsection (3) does not apply in relation to inaccuracies, omissions or changes that are considered under the regulations to be immaterial.

(6) A supplementary report under this section must be in accordance with the regulations or, if no specific direction is prescribed, in accordance with the regulations applicable to the report under subsection (1).

(7) The director may

- (a) require that an emission report be audited at the expense of the operator in accordance with the directions of the director, or conduct or authorize a person to conduct the audit at the expense of the operator, and
- (b) require an operator to provide additional information in support of an emission report.

Part 3 — Emission Control

Division 1 — Compliance Obligation

Capture and storage of emissions

4 Greenhouse gas emissions that

(a) would be attributable to a regulated operation, but

(b) are captured and stored in accordance with the regulations,

are deemed not to be attributable for the purpose of the compliance obligation of the regulated operation.

Regulated operations' emission limits

5 The emission limit for a regulated operation for each compliance period set out in column 3 of the schedule is the limit of greenhouse gas emissions, expressed in carbon dioxide equivalent emissions,

(a) set out, for the compliance period, in column 2 of the schedule opposite the applicable class of regulated operations set out in column 1 of the schedule, or

(b) calculated, for the compliance period, as described in column 2 of the schedule opposite the applicable class of regulated operations set out in column 1 of the schedule.

Compliance obligation

6 (1) Subject to subsection (2), for each compliance period, the operator of a regulated operation must ensure that the amount of greenhouse gas emissions, determined in accordance with the regulations on a carbon dioxide equivalent basis, that is attributable to the regulated operation is less than or equal to the emission limit applicable to the regulated operation for the compliance period.

(2) An operator of a prescribed class of regulated operations may meet a compliance obligation for a compliance period by ensuring that compliance units, representing the amount of greenhouse gas emissions by which the regulated operation exceeded the applicable emission limit in that compliance period, are available in the compliance account for that regulated operation

(a) on the date the compliance report and related verification statement are due, and

(b) if the operator submits a supplementary report that affects the operator's compliance obligation, by the end of the period prescribed for the purpose of section 7 (3).

Compliance reports

7 (1) For each compliance period, in accordance with the regulations, the operator of a regulated operation must ensure that a report respecting the regulated operation's compliance with the regulated operation's compliance obligation is submitted to the director, which report must include all the following:

(a) the amount of greenhouse gas emissions, determined in accordance with the regulations on a carbon dioxide equivalent basis, that is attributable to the regulated operation for the purposes of the operator's compliance obligation for the compliance period;

(b) if applicable, the amount of greenhouse gas emissions that was captured from the operation, and stored, in the compliance period;

(c) the applicable emission limit or, if the emission limit for the regulated operation is determined using a formula set out in the schedule, the elements of the calculation and the calculation of the emission limit;

(d) if the amount of greenhouse gas emissions under paragraph (a) exceeds the limit under paragraph (c), a calculation of greenhouse gas emissions, expressed in carbon dioxide equivalent emissions, by which the emissions described in paragraph (a) exceed that limit;

(e) if applicable, the number of compliance units that have been placed in the operator's compliance account to meet the operator's compliance obligation for the compliance period;

(f) the prescribed information or matters.

(2) The operator of a regulated operation must ensure that a verification statement in relation to its compliance report is prepared, and submitted to the director, in accordance with the regulations.

(3) An operator of a regulated operation must ensure that a supplementary report is submitted to the director within the prescribed period after the operator becomes aware that

(a) information in a previous report under this section did not completely and accurately disclose the information required to be included in the report, or

(b) information required to be reported in a previous report has changed.

(4) If required by the regulations, a regulated operator must ensure that a verification statement in relation to a supplementary report is prepared, and submitted to the director, in accordance with the regulations, and, in any other case, the director may require that the operator have a verification statement in relation to the supplementary report prepared in accordance with the regulations and submitted to the director by the date specified by the director.

(5) Subsection (3) does not apply in relation to inaccuracies, omissions or changes that are considered under the regulations to be immaterial.

(6) A supplementary report under this section must be made in accordance with the regulations or, if no specific direction is prescribed, in accordance with the regulations applicable to the report under subsection (1).

(7) The director may

(a) require that a compliance report be audited at the expense of the operator in accordance with the directions of the director, or conduct or authorize a person to conduct the audit at the expense of the operator, and

(b) require an operator to provide additional information in support of a compliance report.

Offset units

8 (1) On application in accordance with the process established by regulation, the director may issue, by crediting to an account, one unit for

(a) each verified reduction of one tonne of carbon dioxide equivalent emissions into the atmosphere, or

(b) each verified removal of one tonne of carbon dioxide equivalent emissions from the atmosphere

achieved as part of and in accordance with an accepted emission offset project in respect of which the director has received a report of the outcome of the project and a verification statement in relation to the report.

(2) An offset unit described in subsection (1) may be credited, as directed by the director, only to

(a) the holding account of the project proponent, or

(b) the contingency account.

Emission offset projects

9 (1) Subject to section 10 (6), the director may accept an emission offset project if the director receives from a validation body a copy of the plan in respect of the project and a validation statement respecting that plan, which statement is in accordance with the regulations and affirms that the validation body is satisfied that

(a) the plan for the emission offset project

(i) meets the prescribed criteria, if any, and

(ii) is in accordance with the applicable protocol,

(b) the proponent of the emission offset project meets the prescribed criteria, if any,

(c) the plan for the emission offset project and the assertions in the plan are fair and reasonable,

(d) the reduction of greenhouse gas emissions into, or removal of greenhouse gas from, the atmosphere, estimated in the plan to be achieved through the emission offset project, are conservatively estimated, and

(e) if the emission offset project is implemented in accordance with the plan, the estimated reduction of greenhouse gas emissions into, or removal of greenhouse gas from, the atmosphere will be achieved.

(2) The director must publish the following by posting them on a publicly available website:

(a) the plan for an accepted emission offset project;

(b) the validation statement in respect of the plan;

(c) project reports in relation to the accepted emission offset project;

(d) verification statements in respect of the project reports.

(3) The documents posted under subsection (2) in relation to an accepted emission offset project must remain posted until all offset units issued in respect of the project have been retired or cancelled in accordance with the regulations.

Director's protocols

10 (1) In accordance with the prescribed procedures, if any, the director may establish protocols, consistent with the regulations, for any aspect of carrying out a class of emission offset projects, including, without limitation,

(a) describing the class of emission offset projects to which a protocol is applicable,

(b) describing the phases of emission offset projects in the class, including, without limitation, describing how the start and end dates of the projects will be determined,

(c) for determining the standards for planning, managing and conducting projects and for monitoring, measuring, quantifying and documenting in relation to projects in the class,

(d) for determining the baseline greenhouse gas emission level to be used to measure the reductions and removals of greenhouse gas achieved by projects in the class,

(e) describing requirements to be met before offset units may be issued in relation to the class of projects, which may include, but are not limited to the following, in accordance with the regulations:

(i) requiring the project proponent to provide evidence that a covenant under section 219 of the Land Title Act, a statutory right of way under section 218 of that Act or another charge under that Act has been registered in the land title office in favour of the Crown and specifying the terms and conditions of the charge;

(ii) requiring the project proponent to provide security for the performance of the proponent's obligations under this Act in relation to the project, and

(f) insuring against the risk of reversal of greenhouse gas reductions or removals achieved by an emission offset project, which may include

(i) requiring that offset units generated by the project be credited to the contingency account, or

(ii) discounting the number of offset units to be credited to the holding account of the project proponent.

(2) Unless the regulations provide otherwise, the director may specify in a protocol how a prescribed standard applies to, or may make different provisions for, different subclasses of emission offset projects in the class to which the protocol applies.

(3)The director must provide public notice, in any manner the director considers appropriate, of a protocol established under subsection (1).

(4)A protocol established under subsection (1) does not apply to an emission offset project for which a plan is validated before notice of the protocol is provided under subsection (3).

(5)A validation body must not provide a validation statement unless the plan for an emission offset project is in accordance with the applicable protocol.

(6)The director must not accept a plan for an emission offset project that has a start date, determined in accordance with the applicable protocol, that occurred before public notice of that protocol, or before public notice of an amendment to that protocol that makes that protocol applicable to the emission offset project, is given under subsection (3), if

(a)more than one year has elapsed since that public notice was given, or

(b)more than 5 years have elapsed since the project was started.

Division 3 — Funded Units

Funded units

11 For each payment made to the government in the prescribed amount by the operator of a regulated operation, or by a person who holds a holding account, the director may issue, by crediting to an account of the operator or person, as applicable, one compliance unit that is deemed to be the equivalent of an offset unit.

Division 4 — Earned Credits

Earned credits

12 (1)If, on receipt of a compliance report and verification statement, the director is satisfied that the greenhouse gas emissions of the regulated operation for the compliance period were less than the emission limit applicable to that regulated operation for that compliance period, subject to subsection (2), the director may issue, by crediting to the holding account of the operator of the regulated operation, one credit for each tonne of carbon dioxide equivalent emissions by which the greenhouse gas emissions of that regulated operation were less than that emission limit.

(2)If greenhouse gas emissions were captured and stored in order to achieve the lower emissions result described in subsection (1), the director, in the amount the director considers appropriate, may reduce the number of earned credits issued under subsection (1) to account for the risk that stored greenhouse gas emissions are released into the atmosphere over a 100-year time horizon.

Division 5 — Registry

Registry

13 (1)The Lieutenant Governor in Council, by regulation, must establish a registry for the purposes of this Act.

(2)The director must ensure that

(a)offset units, funded units and earned credits issued by the director are credited to accounts,

(b)transactions in relation to compliance units are tracked through the registry, and

(c)prescribed information is published through the registry.

(3)The operator of a regulated operation that has a compliance obligation that may be met as described in section 6 (2) [compliance obligation] may hold, in accordance with the regulations,

(a)an account to which compliance units may be credited to the operator, and

(b)an account in the name of each regulated operation of that operator into which the operator may transfer compliance units for the purpose of meeting the operator's compliance obligation.

(4)The government must hold the following accounts:

(a)an account to which offset units may be credited for the purpose of meeting the obligations under section 6 (1) (c) of the Climate Change Accountability Act;

(b)an account into which compliance units may be retired

(i)from compliance accounts of regulated operations,

(ii)from the account referred to in paragraph (a), and

(iii)from the account referred to in paragraph (c);

(c)an account to which the director may credit the prescribed portion of offset units generated by prescribed classes of emission offset projects.

(5)The project proponent of an accepted emission offset project must hold an account to which offset units earned by the accepted emission offset project may be credited.

(6)On application in accordance with the regulations, the director may authorize a person, other than the operator of a regulated operation or a project proponent, to hold a holding account to which compliance units may be credited to the person.

Registry administrator

14 (1)The registry administrator is responsible for administering the registry in accordance with this Act, the regulations, the directions of the director and, if required, the administrative agreement.

(2)The registry administrator must assign a unique identifier to

(a)each offset unit, funded unit and earned credit the director issues, and

(b)each recognized unit that is credited to an account,

by which the unit may be tracked in the registry.

Registry operated by minister

15 If the Lieutenant Governor in Council establishes a registry under section 13 that is to be operated by the minister, the minister may appoint an employee under the Public Service Act as the registry administrator to exercise the powers and perform the duties of the registry administrator under this Act.

Registry operated outside government

16 (1)If the Lieutenant Governor in Council establishes a registry under section 13 that is to be operated outside of government, the minister may appoint a person as the registry administrator subject to an administrative agreement being entered into under subsection (2) of this section.

(2)The minister may enter into an administrative agreement appointing a person as the registry administrator under which agreement the person is to

(a)operate the registry for the purposes of this Act, and

(b)exercise the powers and perform the duties of the registry administrator under this Act.

(3)An administrative agreement referred to in subsection (2) must include provisions that specify all the following:

(a)the acceptance by the registry administrator of the responsibility to provide the services required to be provided by the registry under this Act as set out in the agreement;

(b)the terms for financial arrangements between the registry administrator and the government, including the collection and payment of fees due to the registry administrator or the government and any other financial matters;

(c)the terms and conditions on which the registry administrator will provide account services to regulated operators, the government and the project proponents of accepted emission offset projects;

(d)the requirements for records management by the registry administrator;

(e)matters in respect of which the registry administrator is required to report to the director;

(f)a requirement that the registry administrator ensure that there is adequate insurance;

(g)indemnification between the registry administrator and the government;

(h)the obligations of the parties if the agreement is terminated;

(i)the time period of the agreement or the procedure for review of the agreement by the registry administrator and the government;

(j) procedures for the settlement of disputes between the parties.

(4) The registry administrator must comply with the terms of the administrative agreement, and may not administer the registry under this Act except in accordance with that agreement.

(5) Information obtained by the registry administrator in the course of administering the registry may be used by the registry administrator only for the purposes of administering the registry for British Columbia.

Administrative agreement does not make registry administrator an agent of the government

17 The registry administrator appointed under an administrative agreement is not an agent of the government for purposes of the administration of the registry.

Power of registry administrator to set fees

18 A registry administrator referred to in section 16 (2) may set, in accordance with the administrative agreement, the fees and other charges that must be paid by a person having an account or using the registry.

Compliance units issued into registry

19 If the director issues an offset unit, a funded unit or an earned credit, the registry administrator must credit the offset unit, funded unit or earned credit to the account specified by the director.

Division 6 — Compliance Unit Transactions

Compliance unit transactions

20 (1) The holder of a holding account may transfer, in accordance with the regulations, compliance units from the holding account

(a) to another holding account,

(b) to a compliance account, or

(c) if authorized by the regulations, to another registry.

(2) Compliance units in a compliance account may not be transferred out of the account except by the director.

(3) The director may retire compliance units

(a) from the compliance account of a regulated operation,

(b) from the government's holding account,

(b.1) from a person's holding account on the direction of the person, if the person is not a regulated operation, and

(c) from the contingency account if there is a reversal of greenhouse gas reductions or removals achieved by an emission offset project.

(4) Only the director may retire compliance units.

(5) Under subsection (3), the director may retire,

(a) from the compliance account of a regulated operation, the number of compliance units required

(i) for the operation to meet its compliance obligation in relation to the regulated operation for a compliance period, or

(ii) for the operator of the regulated operation to satisfy an administrative penalty that is imposed in relation to the operation and is an obligation to make compliance units available for retirement,

(b) from the government's holding account, the number of offset units required for public sector organizations, as defined in the Climate Change Accountability Act, to meet their obligation under section 5 (1) of that Act,

(b.1) from the holding account of a person described in subsection (3) (b.1), the number and type of compliance units the person directs the director to retire, and

(c) from the contingency account, the number of offset units required to compensate for a reversal of greenhouse gas reductions or removals achieved by an emission offset project.

(6) The retirement of compliance units from an operator's compliance account may occur

(a) not earlier than one year after the date the compliance report and verification statement in respect of which the compliance units are to be retired are due, and

(b) if a supplementary report is received in relation to the same regulated operation and the same compliance period after the expiry of the year referred to in paragraph (a), upon receipt of the verification statement relating to the supplementary report.

(7) When the director has retired from the compliance account of a regulated operation the number of compliance units required to meet the operator's compliance obligation for a compliance period, the director must transfer to a holding account of that operator any compliance units that were deposited into the compliance account for the relevant compliance period and were not required to meet the operator's compliance obligation for that compliance period.

(8) Compliance units must not be transferred from the retirement account except that the director may transfer compliance units from the retirement account only

(a) in the case of director, registry administrator or electronic system error, and

(b) into the account from which they were transferred in error.

Part 4 — Compliance and Enforcement

Division 1 — Inspections

Inspectors

21 The director may

- (a) designate a person as an inspector or a class of persons as inspectors, and
- (b) issue identification to a person, or a person in a class, designated under paragraph (a), identifying the person as an inspector.

Inspection and seizure powers

22 (1) For the purposes of ensuring compliance with this Act or the regulations, an inspector, at any reasonable time, may enter land or premises, other than premises or a part of premises used solely as a private residence, and inspect any place, process, thing or activity that is

- (a) part of the business premises or operations of an industrial operation, or
- (b) part of the business premises of the project proponent of an accepted emission offset project or the site of the project.

(2) An inspector who enters land or premises under this section may do any or all of the following for the purposes referred to in subsection (1):

- (a) inspect, analyze, measure, sample or test anything;
- (b) use or operate anything or require the use or operation of anything, under conditions specified by the inspector;
- (c) take away samples;
- (d) make or take away copies of records.

(3) An inspector who enters land or premises in accordance with this section

- (a) may take along the persons and equipment that the inspector considers may be necessary for the purposes of the inspection, and
- (b) on request, must provide proof of identity to a person present on the land or premises entered.

(4) Section 112 [seizures and prevention orders] of the Environmental Management Act applies for the purposes of this Act, and for that application

- (a) a reference in that section to this Act or to this Act or the regulations is to be read as a reference to this Act or this Act and the regulations under this Act, as applicable,

(b) a reference in that section to a director is to be read as a reference to the director under this Act,

(c) a reference in that section to an officer is to be read as a reference to an inspector, and

(d) a reference in that section to an inspection is to be read as a reference to an inspection under this Act.

(5) A person who is the subject of an inspection under this section, or who is or was a director, receiver, receiver manager, officer, employee, banker, auditor or agent of a person who is the subject of an inspection under this section, on request of an inspector, must, without charge or unreasonable delay,

(a) produce for examination by the inspector any record relating to requirements under this Act, and

(b) provide the inspector with information relevant to the purposes of the inspection.

Division 2 — Administrative Penalties

Automatic administrative penalties: failure to meet compliance obligation

23 (1) If a report under section 7 (1) or (3) [compliance reports], or the verification statement submitted in respect of the report, indicates that the operator of the regulated operation has failed to meet the operator's compliance obligation, the operator is subject to the administrative penalty established by the regulations

(a) in the case of a report under section 7 (1), on the applicable date under section 6 (2) [compliance obligation], and

(b) in the case of a report under section 7 (3), on the date the supplementary report and verification statement are due.

(2) In the case of an administrative penalty that is a monetary amount, the amount must be paid to the government

(a) in the case of a report under section 7 (1), on the applicable date under section 6 (2), and

(b) in the case of a report under section 7 (3), on the date the supplementary report and verification statement are due.

Imposed administrative penalties: inaccurate report or failure to report

24 (1) The director must take action under this section, in accordance with the regulations,

(a) if the director is satisfied on a balance of probabilities that

(i) the greenhouse gas emissions attributable to a regulated operation for a compliance period differed from those reported under section 7 (1) or (3) [compliance reports], whether or not those reported emissions are verified by the verification statement that accompanies the report, and

(ii) as a consequence, the operator has failed to meet the operator's compliance obligation by the applicable date under section 6 (2) [compliance obligation], or

(b) if

(i) the operator of a regulated operation fails to submit a compliance report in accordance with section 7 (1) or (3) or submits a report that is not accompanied by a verification statement, and

(ii) the director is satisfied on a balance of probabilities that the operator failed to meet the operator's compliance obligation by the applicable date under section 6 (2),

unless the director is satisfied on a balance of probabilities that the operator has a reasonable excuse for the inaccuracy or failure.

(2) In the circumstances referred to in subsection (1) (a) or (b), the director, in accordance with the regulations, must serve the operator with an administrative penalty notice

(a) identifying the operator's non-compliance as determined by the director, and

(b) requiring the person to satisfy the administrative penalty established by the regulations and specified in the notice.

Imposed administrative penalties in relation to other matters

25 (1) The director may take action under this section, in accordance with the regulations, if the director is satisfied on a balance of probabilities that a person has contravened a prescribed provision of this Act or the regulations.

(2) In the circumstances referred to in subsection (1), the director, in accordance with the regulations, may serve the person with an administrative penalty notice

(a) identifying the person's non-compliance as determined by the director, and

(b) requiring the person to satisfy the administrative penalty specified in the notice.

When administrative penalty is imposed and must be satisfied

26 (1) A person served with an administrative penalty notice under section 24 (2) or 25 (2) is subject to an administrative penalty as follows:

(a) if the person admits, in writing, to the non-compliance and, if applicable, to its extent as determined by the director, the penalty indicated in the notice is imposed at the time of that admission;

(b) if the time for appealing the determination of non-compliance or its extent under Part 5 [Appeals to Environmental Appeal Board] has elapsed and no appeal has been commenced, the penalty indicated in the notice is imposed at the end of the time for appealing;

(c) if the non-compliance or its extent as determined by the director is appealed and, under the final determination of the appeal, the person is subject to an administrative penalty, the penalty specified in the final determination is imposed at the time of that final determination.

(2) In the case of an administrative penalty under section 24 or 25 that is a monetary amount, the amount must be paid to the government within the prescribed time after the penalty is imposed and in accordance with any other prescribed requirements.

(3) In the case of an administrative penalty under section 23, 24 or 25 that is an obligation to make compliance units available for retirement, the compliance units must be deposited into the operator's compliance account within the prescribed time and in accordance with any other prescribed requirements.

Administrative penalties do not relieve from compliance obligation

27 Compliance units required as an administrative penalty to be made available for retirement are in addition to the compliance units the operator is required to make available under section 6 (2) [compliance obligation] in order to meet the compliance obligation in relation to which the administrative penalty was imposed.

Liability for administrative penalty

28 (1) If a corporation fails to do something or does something for which the corporation is liable to an administrative penalty, a director or officer of the corporation who authorized, permitted or acquiesced in the failure or action is also liable to an administrative penalty.

(2) This section applies whether or not an administrative penalty is imposed on the corporation.

Recovery of penalties and other debts due

29 (1) An administrative penalty that is a monetary amount may be recovered in accordance with subsection (3) as a debt due to the government from the person on whom the administrative penalty was imposed.

(2) If a person does not satisfy, within the prescribed time, an administrative penalty that is an obligation to make compliance units available for retirement,

(a) the government may acquire and retire compliance units equal to the amount needed to satisfy the obligation, and

(b) the costs of acquiring and retiring the compliance units may be recovered in accordance with subsection (3) as a debt due to the government from the person.

(3) If a person fails to pay

(a) an administrative penalty as required under this Act, or

(b) an amount owing under subsection (2) (b) within 30 days' notice of the debt being served on the person,

the director may file a certificate in a court that has jurisdiction and, on filing, the certificate has the same force and effect, and all proceedings may be taken on it, as if it were a judgment of the court with which it is filed.

(4) A certificate under subsection (3) may be in the prescribed form, must be signed by the director and must contain

(a) the name of the person who is liable for the administrative penalty or debt,

(b) particulars of the administrative penalty or debt, and

(c) a statement of the amount of the monetary penalty under subsection (1) or the government's costs under subsection (2) (b).

Division 3 — Offences and Penalties

Offences

30 (1) An operator of a regulated operation who contravenes section 6 (1) [compliance obligation] commits an offence.

(2) An operator of a reporting operation or regulated operation who does any of the following commits an offence:

(a) contravenes section 3 (1), (2), (3), (4) or (6) [emission reports];

(b) contravenes section 7 (1), (2), (3), (4) or (6) [compliance reports].

(3) An operator of an industrial operation to which section 2 [non-reporting operations] applies who contravenes section 2 (1) or (2) commits an offence.

(4) A person who does either of the following commits an offence:

(a) obstructs or resists the director or an inspector exercising powers or performing duties under this Act;

(b) fails to comply with a direction given or requirement imposed under this Act by the director or an inspector.

(5) A person convicted of an offence under subsection (1), (2), (3) or (4) is liable to a fine of not more than \$1 500 000 or imprisonment for a term of not more than 2 years, or both.

(6) A person who contravenes section 42 (2) [confidentiality] commits an offence.

(7) A person convicted of an offence under subsection (6) is liable to a fine of not more than \$200 000 or imprisonment for a term of not more than 2 years, or both.

Offences of providing false or misleading information

31 (1) A person must not include false or misleading information in a report required to be provided to the director under this Act nor provide false or misleading information to a person acting under this Act.

(2) A person who knowingly contravenes subsection (1) commits an offence and is liable on conviction to a fine of not more than \$1 500 000 or imprisonment for a term of not more than 2 years, or both.

(3) A person who contravenes subsection (1), other than a person described in subsection (2), commits an offence and is liable on conviction to a fine of not more than \$500 000 or imprisonment for a term of not more than 6 months, or both.

(4) A person is not guilty of an offence under subsection (3) if the person establishes that, at the time the information was provided, the person did not know that it was false or misleading and exercised reasonable care and diligence in providing the information.

Continuing offences

32 If an offence under section 30 continues for more than one day, separate fines, each not exceeding the maximum fine for the offence, may be imposed for each day the offence continues.

Liability of directors and officers

33 (1) If a corporation commits an offence under this Act, a director or officer of the corporation who authorized, permitted or acquiesced in the offence commits the offence.

(2) Subsection (1) applies whether or not the corporation is prosecuted for or convicted of the offence.

Relationship between administrative penalties and offences

34 (1) A person may be prosecuted under this Act for a contravention or failure in relation to which an administrative penalty has been imposed.

(2) In imposing a sentence for an offence under this Act, the court may consider an administrative penalty imposed in relation to the same matter.

(3) An administrative penalty may not be imposed on a person for a contravention or failure in relation to which the person has been convicted of an offence under this Act.

Other provisions relating to offences

35 (1) Section 5 of the Offence Act does not apply to this Act or the regulations.

(2) The time limit for laying an information for an offence under this Act

(a) is 3 years after the date that the facts on which the information is based arose, or

(b) if the minister completes a certificate described in subsection (3), is 18 months after the date that the facts on which the information is based first came to the knowledge of the minister.

(3) A document purporting to have been issued by the minister, certifying the date on which the minister became aware of the facts on which the information is based, is proof of the certified facts.

Division 4

Not in force

36-39 [Not in force.]

Part 5 — Appeals to Environmental Appeal Board

What decisions may be appealed, who may appeal and the appeal process

40 (1) For the purposes of this Part, "decision" means any of the following:

(a) a determination of non-compliance under section 24 [imposed administrative penalties: inaccurate report or failure to report] or of the extent of that non-compliance, as set out in an administrative penalty notice;

(b) a determination of non-compliance under section 25 [imposed administrative penalties in relation to other matters], of the extent of that non-compliance or of the amount of the administrative penalty, as set out in an administrative penalty notice;

(c) a prescribed decision or a decision in a prescribed class.

(2) A person who is served with

(a) an administrative penalty notice referred to in subsection (1) (a) or (b), or

(b) a document evidencing a decision referred to in subsection (1) (c)

may appeal the applicable decision to the appeal board.

(3) Subject to this Act, Division 1 of Part 8 [Appeals] of the Environmental Management Act applies in relation to appeals under this Act.

Part 6 — General

Notice and service under this Act

41 (1) A notice or other document that, under this Act, must be given to, delivered to or served on a person may be given, delivered or served as follows:

(a) in any case,

(i) by leaving a copy with the person,

(ii) by sending a copy by registered mail to the address on file with the director for the person or provided to the director by that person,

(iii) by faxing to a number, or by emailing to an email address, provided to the director by the person, or

- (iv) in a prescribed manner, subject to any prescribed conditions;
- (b) if the person is a corporation,
 - (i) by leaving a copy at the corporation's business address, on file with the director or provided to the director by that corporation, with a person apparently employed in the business,
 - (ii) by leaving a copy in a mailbox or mail slot at that business address,
 - (iii) by attaching a copy to a door or other conspicuous place at that business address, or
 - (iv) if applicable, by sending a copy by registered mail to the mailing address shown for the registered office of the company in the corporate register under the Business Corporations Act;
- (c) if the person is an individual,
 - (i) by leaving a copy at that person's residence, at the address on file with the director or provided to the director by the individual, with an adult who apparently resides with that person,
 - (ii) by leaving a copy in a mailbox or mail slot for that address, or
 - (iii) by attaching a copy to a door or other conspicuous place at that address.
- (2) A notice or other document is deemed to have been, as applicable, given to, delivered to or served on a person,
 - (a) if sent by registered mail, on the earlier of
 - (i) the 14th day after the notice or document was mailed, and
 - (ii) the date on which the notice or document was actually received by the person,
 - (b) if left or attached in a manner described in subsection (1) (b) or (c), on the earlier of
 - (i) the 3rd day after the notice or document is left or attached, as applicable, and
 - (ii) the date on which the notice or document was actually received by the person,
 - (c) if faxed or emailed, on the earlier of
 - (i) the 3rd day after the notice or document is faxed or emailed, as applicable, and
 - (ii) the date on which the notice or document was actually received by the person, and
 - (d) if given by a prescribed means of delivery, at the prescribed time.

Confidentiality

42 (1) In this section:

"protected information" means information that would reveal

(a) trade secrets of a third party, or

(b) commercial, financial, labour relations, scientific or technical information of or about a third party,

but does not include information in respect of which the third party has consented to its disclosure or information that is publicly available;

"public body" has the same meaning as in the Freedom of Information and Protection of Privacy Act;

"third party", in relation to the disclosure of information, means any person, group of persons or organization, other than

(a) the person to whom the disclosure is made or is to be made, or

(b) a public body;

"trade secret" has the same meaning as in the Freedom of Information and Protection of Privacy Act.

(2) Subject to Part 2 of the Freedom of Information and Protection of Privacy Act, a person who has access to protected information that is in the custody or under the control of the government through

(a) information that is collected under this Act respecting a reporting operation or regulated operation, whether collected from the operator of the operation or from a verification body,

(b) the exercise of powers under section 22 [inspection and seizure powers] in relation to an industrial operation, or

(c) an information-sharing agreement under section 43 that provides that the information is to be kept confidential

must not disclose the protected information to any other person.

(3) The prohibition in subsection (2) does not apply to disclosure of the following information:

(a) determinations of greenhouse gas emissions, or emissions of a particular greenhouse gas, attributable to

(i) a reporting operation or regulated operation,

(ii) one or more facilities of a reporting operation or regulated operation, and

(iii) prescribed categories of sources;

- (b) the application of compliance units for the purpose of section 6 (2) [compliance obligation];
 - (c) information required or authorized to be in the public portion of the registry;
 - (d) information required or authorized to be made public under this Act or section 6.1 of the Ministry of Environment Act.
- (4) The prohibition in subsection (2) does not apply to disclosure in the following circumstances:
- (a) in the course of administering or enforcing this Act or a prescribed enactment;
 - (b) for the purpose of court proceedings;
 - (c) to a verification body for the purpose of verifying a verification statement in relation to an emission report or a compliance report;
 - (d) in accordance with an information-sharing agreement under section 43.

Information-sharing agreements

43 (1) For the purposes of this section, "information-sharing agreement" means a data-matching or other agreement to provide or exchange information for the purposes of the administration of this Act.

(2) With the prior approval of the Lieutenant Governor in Council, the minister may enter into an information-sharing agreement with

- (a) the registry administrator,
- (b) an entity, whether or not in British Columbia, that
 - (i) performs a function similar to the registry's function, or
 - (ii) carries out research or establishes standards in relation to greenhouse gas emissions,
- (c) Canada, another province, a territory or a foreign jurisdiction, or an agent of any of them, or
- (d) an organization responsible for accrediting persons qualified to conduct validations or verifications under this Act.

Agreements

44 With the prior approval of the Lieutenant Governor in Council, the minister may enter into agreements

- (a) for the purposes of this Act, with Canada, another province, a territory or a foreign jurisdiction, or with an agent of any of them, respecting
 - (i) recognition, as compliance units, of units that are comparable to a class of compliance units and are issued by the other party,

(ii) inspection and enforcement, and

(iii) accounting for reductions of greenhouse gas emissions into, or removals of greenhouse gas from, the atmosphere, or

(b) for the purposes of the requirements of this Act or the regulations relating to validations and verifications, with any of the following:

(i) Canada, another province, a territory or a foreign jurisdiction, or an agent of any of them;

(ii) an organization responsible for accrediting persons qualified to conduct validations or verifications under this Act.

Operator responsibility

45 If the regulations describing who is considered to be an operator of an industrial operation are applicable to more than one person in relation to an industrial operation, each operator of the industrial operation is jointly and separately responsible for meeting that industrial operation's obligations under this Act.

General regulation-making powers

46 (1) The Lieutenant Governor in Council may make regulations referred to in section 41 of the Interpretation Act.

(2) The authority under another provision of this Act to make regulations does not limit subsection (1).

(3) The Lieutenant Governor in Council may make regulations as follows:

(a) prescribing information that must or may be made public under this Act, other than information referred to in paragraph (a) of the definition of "protected information" in section 42 [confidentiality];

(b) establishing criteria that must be applied by the director in making decisions under this Act;

(c) defining words or expressions used but not defined in this Act;

(d) respecting any matter for which regulations are contemplated by this Act.

(4) A regulation under this Act may do any or all of the following:

(a) delegate a matter to a person;

(b) confer a discretion on a person;

(c) make different regulations in relation to

(i) reporting operations, regulated operations and industrial operations that are not reporting operations,

(ii) different classes of reporting operations, regulated operations and industrial operations that are not reporting operations,

(iii) different classes of emission offset projects,

(iv) different types of compliance units,

(v) different classes of account holders,

(vi) different types of reports or statements and different classes of types of reports or statements, and

(vii) different types of accounts;

(d) establish classes or types for the purposes of paragraph (c) (ii) to (vii).

(5) A regulation under this Act may adopt by reference, in whole, in part or with any changes considered appropriate, a regulation, code, standard or rule

(a) enacted as or under a law of another jurisdiction, including a foreign jurisdiction, or

(b) set by a provincial, national or international body or any other code, standard or rule making body,

as the regulation, code, standard or rule stands at a specific date, as it stands at the time of adoption or as amended from time to time.

Regulations in relation to industrial, reporting and regulated operations

47 The Lieutenant Governor in Council may make regulations as follows:

(a) establishing reporting operations for the purposes of this Act by

(i) prescribing as reporting operations

(A) classes of activities,

(B) classes of activities that meet a prescribed level of activity, or

(C) facilities where activities referred to in clause (A) or (B) occur, including facilities that are not limited to a single location,

(ii) designating as a reporting operation a particular set of activities or a particular facility, including a facility that is not limited to a single location, or

(iii) prescribing reporting operations by reference to a prescribed level of

(A) attributable greenhouse gas emissions from one or more facilities, or

(B) attributable greenhouse gas emissions from prescribed categories of sources;

(b)amending the schedule

(i)to designate as regulated operations a class of reporting operations,

(ii)to establish the emission limit or a formula to determine the emission limit for each regulated operation, and

(iii)to specify the compliance period or periods to which an emission limit applies;

(c)respecting industrial operations referred to in section 2 (1) [non-reporting operations], including, without limitation, requiring classes of those industrial operations to comply with section 2 (1) [non-reporting operations];

(d)respecting who is to be considered the operator of an industrial operation, a regulated operation or a reporting operation;

(e)establishing the greenhouse gas emissions that, for the purposes of this Act, are attributable to an industrial operation, a reporting operation or a regulated operation, which emissions may include, but are not limited to,

(i)greenhouse gas emissions whether they occur inside or outside British Columbia,

(ii)in relation to electricity, greenhouse gas emissions associated with the generation and transmission of the electricity until the point at which the electricity is consumed by an industrial operation, and

(iii)greenhouse gas emissions associated with activities that occur at, or with facilities that are part of, a regulated operation but are ancillary to the primary activity or purpose of the industrial operation;

(f)respecting the methodology by which attributable greenhouse gas emissions are to be determined on a carbon dioxide equivalent basis;

(g)respecting industrial operations, whether or not reporting or regulated, including, without limitation,

(i)requiring industrial operations to register with or submit information to the director,

(ii)providing for the timing, form, content and manner of registration or submission of information, and

(iii)requiring the preparation, submission and approval of plans for monitoring and quantifying an industrial operation's attributable greenhouse gas emissions;

(h)for the purpose of defining classes of regulated operations, including as part of a regulated operation activities that occur at or facilities that are part of the regulated operation but are ancillary to the primary activity or purpose of the industrial operation.

Regulations in relation to compliance units

48 (1)The Lieutenant Governor in Council may make regulations respecting emission offset projects and offset units, including, without limitation, the following regulations:

(a)respecting the criteria

(i)for qualifying as the proponent of an emission offset project, including, without limitation, criteria in relation to

(A)ownership of the proponent, and

(B)financial matters, and

(ii)for qualifying as an emission offset project, including, without limitation, criteria in relation to

(A)location of projects,

(B)timing of projects, and

(C)public consultation;

(b)respecting the form and content of a plan for an emission offset project;

(c)respecting periods in relation to emission offset projects, including, without limitation,

(i)requiring that a plan for an emission offset project and validation statement in respect of the plan be provided to the director for acceptance of the emission offset project within a specified period after the completion of the validation statement,

(ii)limiting the period in which reductions and removals of greenhouse gas must be achieved for a class of emission offset projects,

(iii)limiting the period within which the application for the issue of offset units in relation to a verified project report must be made and the consequence of failing to apply within that period,

(iv)limiting the period, after the completion of an emission offset project, by which the final project report and verification of that final project report must be provided to the director,

(v)establishing the period during which a class of emission offset projects must be monitored, managed or maintained after the completion of the project, and

(vi)authorizing the director to extend or limit a period in relation to emission offset projects either generally or in specified circumstances;

(d)establishing standards for planning, managing and conducting emission offset projects and for monitoring, measuring, quantifying and documenting in relation to the projects, including, without limitation,

- (i)for any aspect of the project, and
- (ii)for certainty, for determining the baseline greenhouse gas emission level to be used to measure the reductions and removals of greenhouse gas achieved by the emission offset project;
- (e)establishing the processes
 - (i)for submitting to the director plans for emission offset projects, validations of such plans, project reports and verifications of project reports,
 - (ii)by which the director accepts an emission offset project,
 - (iii)for applying for the issue of offset units, and
 - (iv)by which offset units are issued;
- (f)respecting the conditions under which offset units may be issued in relation to classes of emission offset projects, including, without limitation, regulations
 - (i)requiring a project proponent to give security, for the performance of the obligations imposed under this Act on the project proponent in relation to the project, to the director in the amount, in the form and subject to the conditions specified in the regulation, or authorizing the director to require the owner or operator of an emission offset project to give security for that purpose to the director in the amount, in the form and subject to the conditions the director may specify,
 - (ii)respecting
 - (A)the circumstances in which security described in subparagraph (i) may be realized, and
 - (B)the payment of interest on security,
 - (iii)requiring a project proponent to provide evidence that a covenant under section 219 of the Land Title Act, a statutory right of way under section 218 of that Act or another charge under that Act has been registered in the land title office in favour of the government and specifying the terms and conditions of the charge,
 - (iv)authorizing the director to impose a requirement that a project proponent provide evidence that a covenant under section 219 of the Land Title Act, a statutory right of way under section 218 of that Act or another charge under that Act has been registered in the land title office in favour of the government and specifying the terms and conditions of the charge,
- (v)respecting the contingency account, including, without limitation,
 - (A)prescribing the classes of emission offset projects for which a portion of offset units must be issued into the contingency account, and
 - (B)respecting the retirement of compliance units from the contingency account, and

(vi) respecting the determination of the risk of reversal of greenhouse gas reductions or removals in relation to emission offset projects;

(g) requiring a project proponent to provide information in addition to the information in the plan for an emission offset project, validation statement or verification statement;

(h) imposing requirements on project proponents in respect of monitoring, maintaining and reporting after completion of the emission offset project;

(i) requiring a project proponent who has applied for and received offset units in relation to an emission offset project to complete implementation of the project.

(2) The Lieutenant Governor in Council may make regulations respecting funded units, including, without limitation, prescribing the amount that must be paid to the minister to receive one funded unit, which amount may be different for different compliance periods.

(3) If the minister has entered into an agreement under section 44 [agreements], with Canada, another province, a territory or a foreign jurisdiction, that provides for the mutual recognition of the equivalence of units from each jurisdiction, the Lieutenant Governor in Council may make regulations

(a) recognizing a unit of Canada, another province, a territory or a foreign jurisdiction, including by deeming it to be the equivalent of an offset unit, for the purpose of meeting a compliance obligation of a regulated operation,

(b) providing that an offset unit transferred by an operator or a project proponent to a person who does not hold an account in the registry is cancelled, and

(c) providing for the crediting to accounts of units referred to in paragraph (a).

(4) The Lieutenant Governor in Council may make regulations respecting the retirement of compliance units.

(5) The Lieutenant Governor in Council may make regulations

(a) authorizing the minister, subject to there being an appropriation under the Financial Administration Act, to enter into an agreement with a technology fund that

(i) accepts and evaluates proposals for funding to assist in the commercialization of new clean technologies, and

(ii) provides funding for proposals described in subparagraph (i),

(b) specifying the matters the parties must reach agreement on and include in the agreement,

(c) prescribing required terms and conditions of the agreement, and

(d)prescribing other criteria for the purpose of paragraph (f) of the definition of "technology fund" in section 1.

Regulations in relation to validation and verification

49 The Lieutenant Governor in Council may make regulations respecting validation bodies, validation statements, verification bodies and verification statements, including, without limitation, regulations

(a)establishing requirements and standards respecting qualifications, accreditation, conflict of interest and other matters relating to persons who perform validations or verifications under this Act,

(b)respecting the conduct of validations of emission offset projects and the form and content of validation statements,

(c)authorizing the director to refuse to accept validation statements from a validation body and verification statements from a verification body

(i)while the validation body or verification body is under investigation by the organization that accredited it, or

(ii)if the director believes on reasonable grounds that the validations performed by the validation body or the verifications performed by the verification body do not comply with the regulations or with the standards of the organization that accredited the validation body or verification body,

(d)respecting the conduct of verifications of emission reports, compliance reports and emission offset project reports and the form and content of verification statements, and

(e)prescribing circumstances in which the operator of a reporting operation or a regulated operation must have a verification statement prepared and submitted to the director respecting a supplementary report under section 3 (3) [emission reports] or a supplementary report under section 7 (3) [compliance reports].

Regulations in relation to registry

50 The Lieutenant Governor in Council may make regulations as follows:

(a)respecting the establishment of a registry for the purposes of section 13 (1) [registry], including by establishing a registry to be operated by

(i)the minister, or

(ii)another person, including, without limitation, a person who operates a similar registry whether inside or outside Canada;

(b)respecting the registry, including, without limitation,

(i)respecting the participation in the registry of a person referred to in section 13 (6), including, without limitation,

- (A)prescribing the information that a person must provide to the director on application under that section,
- (B)establishing qualifications that a person must satisfy to hold an account, and
- (C)establishing restrictions on the participation in the registry of a person authorized under that section to hold an account,
 - (ii)respecting the fees that may be established and collected by the registry administrator in relation to registry services,
 - (iii)respecting the terms and conditions on which persons may hold accounts and use the registry, and
 - (iv)conferring powers on the director to suspend or cancel an account holder's participation in the registry other than participation for the purpose of transferring compliance units into a compliance account;
- (c)requiring account holders to report information relating to compliance units or their activities in the registry and respecting to whom the reports are to be submitted and the timing, form, content and manner of submission of the reports;
- (d)prescribing information that the director must ensure is published in the registry and the portions of the registry that may be made, or must not be made, available to the public;
- (e)providing that the registry is linked to or forms part of another registry that is used for registering, tracking and retiring units that are comparable to offset units or earned credits;
- (f)if the registry administrator is changed, or if the registry is linked to or forms part of another registry, making any provisions the Lieutenant Governor in Council considers necessary or advisable to effect or facilitate the transition, including, without limitation, deeming transfers and retirements of units through the other registry to be transfers and retirements of compliance units under this Act.

Regulations in relation to administrative penalties

51 The Lieutenant Governor in Council may make regulations for the purposes of Division 2 [Administrative Penalties] of Part 4 [Compliance and Enforcement] as follows:

- (a)prescribing the administrative penalties, or the manner of calculating the administrative penalties, that are or must be imposed under
 - (i)section 23 [automatic administrative penalties: failure to meet compliance obligation], and
 - (ii)section 24 [imposed administrative penalties: inaccurate report or failure to report],

which may include either or both of a monetary amount to be paid to the government and an obligation to make compliance units available in a compliance account;

(b)in relation to administrative penalties under section 24 or 25 [imposed administrative penalties in relation to other matters],

(i)prescribing a limitation period for imposing an administrative penalty and evidentiary matters in relation to that period,

(ii)prescribing procedures to be applied by the director in making a determination of non-compliance, and

(iii)requiring the director to serve a person with a notice of intent to impose an administrative penalty and provide the person with an opportunity to be heard before sending an administrative penalty notice to the person;

(c)in relation to administrative penalties under section 25,

(i)prescribing a maximum or minimum amount of monetary administrative penalties that may be imposed generally, or for specified contraventions, or the manner of calculating those amounts,

(ii)prescribing the maximum or minimum number of compliance units that, as an administrative penalty for specified contraventions, may be required to be made available in a compliance account, or the manner of calculating those numbers,

(iii)prescribing provisions of this Act and the regulations in relation to which an administrative penalty may be imposed,

(iv)authorizing administrative penalties to be imposed on a daily basis for continuing contraventions or failures,

(v)prescribing matters that must be considered by the director in imposing the penalty in a particular case, and

(vi)prohibiting the director from serving an administrative penalty notice on a person who has demonstrated to the satisfaction of the director that the person exercised due diligence to prevent the specified contravention or failure;

(d)establishing the required content of administrative penalty notices;

(e)establishing procedures for providing a person on whom a notice of intent to impose an administrative penalty has been served with an opportunity to be heard, which may include opportunities that do not involve an oral hearing;

(f)respecting the time limit, manner and process for satisfying an administrative penalty;

(g)prescribing the consequences of failing to satisfy an administrative penalty, which may include, but are not limited to, imposing additional administrative penalties under section 25;

(h)providing for the publication of information respecting the imposition of an administrative penalty.

Regulations in relation to appeals

52 (1)The Lieutenant Governor in Council may make regulations respecting appeals under Part 5 [Appeals to Environmental Appeal Board], including, without limitation, prescribing decisions or classes of decisions as being appealable under that Part.

(2)Regulations under subsection (1) may provide that specified provisions of the Environmental Management Act in relation to appeals apply in relation to appeals under this Act with the changes the Lieutenant Governor in Council considers necessary or advisable.

Regulations in relation to other matters

53 (1)The Lieutenant Governor in Council may make regulations as follows:

(a)respecting reports under this Act, including, without limitation, prescribing requirements respecting the timing, form, content, supporting evidence, validation by validation bodies, verification by verification bodies, certification by senior officers or directors of industrial operations or project proponents and manner of submission of the reports;

(b)establishing requirements and standards respecting the quality assurance of the information provided in the reports under this Act and the data that support the reports, including, without limitation, requirements and standards respecting

(i)monitoring methodologies and equipment,

(ii)sampling methodologies and equipment,

(iii)analytical methodologies and equipment, and

(iv)recording information and records management

that must be used for the purposes of reports under this Act;

(c)establishing requirements respecting the creation and retention of records supporting reports and information required to be provided to the director under this Act;

(d)establishing fees and charges that are to be paid in respect of any matter for which the government provides a service or performs a duty under this Act;

(e)prescribing for the contravention of a regulation a fine not exceeding \$200 000;

(f)[Not in force.]

(g)respecting claims of confidentiality in relation to information provided to the director in reports.

(2)Without limiting subsection (1) (a), regulations under that subsection may require that reports, verification statements and validation statements under this Act are to be submitted to

(a) the registry administrator, or

(b) a person or entity referred to in section 43 (2) [information-sharing agreements] or 44 [agreements].

Part 7 — Transitional Provision, Repeal and Consequential Amendments

Transitional Provision

Transition — Climate Change Accountability Act

54 (1) Despite the repeal of section 12 (2) (g) (ii) of the Climate Change Accountability Act, if the proponent of a project that is authorized under that section to be approved, the plan for which has been validated in accordance with the regulations under that Act, has, on or before the date this section comes into force,

(a) agreed in writing to sell to the government emission offsets generated by the project, or

(b) delivered verified emission offsets to the government for the 2012 calendar year or a later calendar year,

the director, on request of that proponent, must accept the project under section 9 (1) of this Act, for the applicable validation period prescribed under section 12 (2) (g) (ii) of the Climate Change Accountability Act, as if it were an emission offset project acceptable under section 9 (1) of this Act.

(2) The proponent of a project described in subsection (1) must make the request under that subsection within the prescribed period.

(3) This Act and the regulations under this Act apply to a project accepted under subsection (1) and to the plan for the project as if the project were an accepted emission offset project.

(4) The director may issue, by crediting to the government's holding account, an offset unit for a reduction in greenhouse gas emissions or atmospheric greenhouse gas concentrations that would have been recognized as an emission offset under the Climate Change Accountability Act had title to the reduction been transferred to the government before the date this section comes into force, if

(a) title to the reduction is transferred to the government, and

(b) the reduction is not registered in any other registry that is used for registering, tracking and retiring units that are comparable to offset units.

(5) The director may issue, by crediting to the government's holding account, an offset unit for a reduction in greenhouse gas emissions or atmospheric greenhouse gas concentrations that would have been recognized as an emission offset under the Climate Change Accountability Act immediately before January 1, 2016, if

(a) title to the reduction was transferred to the government on or before December 31, 2015, and

(b) the emission offset has not been applied to meet the obligation under section 5 of that Act of a public sector organization.

As you can see, British Columbia has enacted good policy, without declaring a climate emergency at this point. Citizens and advocacy groups in BC are, however, advocating that BC enact Climate Harm legislation that would enable liability of fossil fuels and other heavy emitters to be pursued.

Chapter 7. Climate Policy Frontiers

Community Emissions, corporate boards, bank boards, and more.

Firstly, Injection wells are often used by heavy industry. Basically corporations are allowed to do a lot of injection well disposal on their private property. After 5 to 100 years, these unhygienic disasters are left for governments to deal with, by maintaining long term injection well seals. We should have corporate board policy to greatly restrict injection well uses and guide corporations to sustainable manufacturing and chemistry practices and innovation instead. Since the honour system has clearly not worked with the corporate world, professionals need to be given protection while they put a corporation's practices under what I will term a "stewardship mandate". In the meantime we need to give corporate boards resources that clearly show the important business case found in detoxifying industrial processes. Innovation and research funds are available in most governments to help subsidize improvement efforts. The public is moving to boycott dirty companies, which puts everything in the company at stake, and is a necessary lever of power and control. Bishop Desmond TuTu in the week of November 5, 2019, called for a boycott of fossil fuel companies, this is an *ad hoc* public policy that may be hard to execute but as we add more systemic protections like professional tribunals where stewardship mandates can be imposed by professionals, these measures will combine to create their intended effects. The present question is will this be in time to cause the environmental recoveries we need or are we going past the irreversible tipping points? The answer is that we should just assume that we are going to imminently fail and act everywhere we can urgently for a period of time that successfully removes us from danger.

The two main stewardship areas are greenhouse gases and the prevention and stewardship of dangerous effluents of every kind.

I know this much beyond a shadow of a doubt:

Constants, laws, principles, and life forms combined into a sustainable planetary environment which we have greatly enjoyed and deeply abused. The continued enjoyment came with a price; we were to look after and ensure that the environment was maintained through protective thinking followed by actions which runs counter to "exploitation-on-a-deadline" for the sake of capital efficiency. Now we are basically forced to attempt a long shot gamble while at the very least, we are on the precipice of our own extinction. It is time for absolutely every individual to understand that their greenhouse gases are their garbage and are needing to be dealt with responsibly by not driving alone in combustion vehicles thoughtlessly, taking zero carbon days, using public transport. We must plan our outings and projects with the environment's needs uppermost in mind now. This is an hour by hour, movement by movement, moment by moment necessity in our daily lives as people expire at our hands. Whether you like it or not, you must clean up your own garbage by starting with understanding how each of us emits dangerous invisible gases that must be reduced or removed entirely.

I ask you to think about this question: Do we think that the negative emissions technology providers are happy to have explosive growth technologies to serve the urgent need for greenhouse gas removal? Let me assure you, these innovators are not happy about the size of this problem, nor that it is still growing in 2019. These technologies are going to tap more resources from the Earth to get up and running when we have all fully realized that we need to be in full conservation mode and sustainability mode while we reverse the situation. In order for us to be fully responsible, we have to repeatedly ask you to cut your personal emissions or advocate for the forced reduction if the excessive emissions trajectory goes on much longer because you are collectively making our job more difficult.

The honour system for corporations, governments, and individuals has failed us in the climate change arena. Honour the people that you find whom are interfering in your western lifestyle because frankly they love you and they love themselves too. You are being cautioned to stop hurting others and ultimately yourselves with your careless corporate practices, missing government policy and your careless and carefree lifestyles. We are collectively creating tipping points in our environment and need to be conscious of this moment by moment, project by project, and with every fossil fuel usage we make.

If there is one message I could give to everyone across all sectors of society it is that the honour system has completely failed us. We need to write and rewrite policy and procedures to compensate for this failure in every imaginable way, or risk killing more, cause more suffering and loss, and we need to unite on this policy level very, very quickly. If we do that, reversal technologies will be given the best chance to succeed, which right now, is not an assured outcome. Every move towards a reversal is needed urgently.

Chapter 8. Top Climate Policy Hit List for 2019

#1: Air Quality Statutes around the world need a complete rewriting to reduce CAP emission levels by 80% and need to be enforced.

#2. Royalty-An Assessment

Prince Harry's environmental showmanship of 2019 is enough. Taking photos and filming needs to include what their mother would have included: the vulnerable whom are living or dying of the catastrophe in their homelands. If you want the full human story you want to watch the UN high commission on refugees, where the stunning statistics of the clash with climate-vulnerable places and the western lifestyle are raw and full of conflict. It's hard to wake up but we're going to have to do it.

Royals are high emitters and low productivity folk. They mostly baby their wealth into high carbon footprint projects in alternation with high carbon footprint social lives that they describe as high society-it's high all right- just high carbon footprint that is ultimately self destructive. This class is generally not on par with the professional class, even though they like to call their circles peerages of the educated-that's to get themselves included in a social circle. Most real professionals are ten times more productive and full of initiative and far less compensated for trying to do the real social improvement work, the peerage has definitely been in no rush to improve the environment through lifestyle reduction because there is a large unchecked capitalist underpinning that still enjoys tax

havens around the world that feed their addiction to wealth. To always want to have an easy life and the finest things? That is an addiction that does no one any good these days. This tribe of despots needs to be the first to go carbon negative in every area of their lives. They will be the last to tell the average person to lower their carbon footprints because then they would be called out on their consumption more openly by the more rebellious among us. It could devolve into shaming that turns into creative forms of lynching, so they are keeping their heads down. I advise them to lead in this area with all their might and be open and transparent about their leadership as they down size to carbon negative to at least protect their own interests.

The wealthiest among us should go carbon negative first, and this should definitely include them buying double or triple the carbon credits that they use at this stage and include all of their historical emissions both at home and in their businesses, investments and supply chains. This would model the approach needed for everyone. Your emissions are a true invisible enemy to you as well as everyone else around you.

The Associated Policy Challenge

Until this is achieved the royals and their peerages, with rare exceptions that have emerged, will occupy the bottom of the Climate Change Leadership List. I'm expressing what I think is right, but we all know that the "honour system" with respect to climate's deadly invisible gases has completely failed with these folks leading the black market in carbon emitting- so- how do we really solve this pain? The first thing to do is think about what I have said on this and what others are saying, like Dr. Kevin Anderson, and Dr. Rupert Read. How do we successfully get rid of cheating and what is cheating anyway? This will be the policy innovation challenge of 2020 because the honour system completely failed on every level that mattered and now people are dying because of this. I might add that we cannot force sociopaths or ordinary people to care and act on any form of caring, but we can write and change policy.

Informative Organizations Leading on Climate Change

Organizations like West Coast Environmental Law, The Suzuki Foundation, and the Pacific Institute for Climate Solutions offer accurate information and guidance, which has been an uphill battle for their directors to see results. What has actually happened is what too often happens, negative consequences must be experienced first by a population while being told why they have the consequences, before they make the change.

I share here some guidance from the West Coast Environmental Law Society for Municipalities posted on their blog: "Our climate is changing, and we need to plan for a "new normal." Impacts include rising sea levels, more extreme weather events, increased risk of flooding, forest fires and seasonal water shortages.

West Coast Environmental Law is working with local governments and experts to support climate adaptation that not only makes our communities resilient but offers multiple benefits for the environment and community members. Our legal perspective helps us identify key barriers and opportunities for implementing solutions, and where issues cross physical and jurisdictional boundaries we are facilitating collaboration.

In addition, recognizing that adaptation is a political, not just a technical process, West Coast supports deliberative workshops where community members can evaluate risks and offer informed input into adaptation policies.

Preparing for Climate Change

Preparing for Climate Change Report

Local governments are on the front lines of a changing climate. Our report, *Preparing for Climate Change: An Implementation Guide for Local Governments in...*

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Legal Liability Introduction Excerpt From the above Report:

“How local governments respond to the impacts of climate change is also important from the point of view of legal liability. Liability for local governments in the context of climate change impacts is most likely to arise in the form of claims against the local government for negligence or nuisance.

A local government can be found to be negligent if it can be shown that, in exercising its powers, it failed to exercise reasonable care towards people to whom it owes a duty of care.⁴² A key consideration is whether the harm in question was reasonably foreseeable.⁴³ While there is still some degree of uncertainty associated with future climate change, the scientific evidence and related information that is now available make a range of climate change impacts increasingly foreseeable for local governments. Accordingly it is becoming less likely that a local government would be able to successfully defend a negligence claim if it failed to take those impacts into account when exercising its statutory authority.⁴⁴ Local governments can also be exposed to nuisance claims, which are based on an interference with the use or enjoyment of private property.⁴⁵ A typical example is where a local government sewerage or drainage system fails and causes property damage. With climate change posing increasing challenges for local government infrastructure, there may be more nuisance claims of this type arising.”

National Farmers Union: Notable Policy Position

Farmers are on the front lines of climate change, as we are among those who most depend upon a favourable climate and weather conditions to earn a livelihood. We need climate stability to produce our crops, raise our livestock and maintain the health of our agriculture ecosystem – and to provide the food Canadians eat. We are also in a position to make significant impact on Canada’s carbon footprint by changing our agricultural practices to adapt and reduce our emissions.

The NFU is keenly interested in being a leader in the transition to a carbon-neutral economy. We are working across Canada to identify ways to reduce farm and food system GHG emissions. We also have many members already putting low-carbon production into action on their own farms. We seek to share our knowledge and experience as a resource for policy makers as we embark on this important journey.

“The unchecked use of fossil fuels over the past 200 years has caught up with us. Today we have a duty to correct the damage done, but we also have a great opportunity to learn how we can work with Nature, including soil microorganisms, insects, plants, animals and water to produce abundant, healthy food without damaging our atmosphere.” – Ian Robson, NFU Region 5 (Manitoba) Coordinator

Both adaptation and mitigation are required for agriculture to play its part in preventing catastrophic climate change and for food production and farmer livelihoods to be maintained into the increasingly uncertain climate future.

The NFU has adopted the following positions regarding climate change:

- The NFU demands that all levels of government acknowledge the need to massively and urgently reduce greenhouse gas emissions.
- Global warming is a result of increased emissions of greenhouse gases, including carbon-dioxide. Carbon can be sequestered through proper soil conservation practices. There are proposals to measure stored carbon in terms of carbon credits which may be commodified and traded amongst countries. It seems very likely that carbon credit trading will result in richer countries buying credits from farmers in developing countries and this practice may allow for actual increases in greenhouse gases. Therefore, the NFU believes that individual countries must be responsible for greenhouse gas reduction within their own border. The NFU further believes that carbon credits should not be commodified and traded between nations, companies, or individuals.
- The NFU supported the Kyoto Agreement and urged the federal government to ratify it.
- The NFU provides information, support, and climate change mitigation strategies to farmers.
- The NFU encourages all levels of government to create comprehensive agriculture rebate programs based on measurable on-farm carbon emission reductions and increased carbon sequestration.

Summary

Who -or what is not on the front lines of Climate Change yet?

Once we are more informed about the great shift in policy work happening, to further our success we are all going to have to ask: “Where do I focus?”

People want to stop hurting others with their lifestyle emissions, but more of us need to make this adjustment and ask and tell others to do the same. Remember that the “honour system” on this failed us at several levels. We need to ask for affordable Electric vehicles, negative emissions technologies, and stop operating a throw away economy. We have to say no to the fossil fuel companies, by taxing them and suing for past liability while earmarking that money to directly intervene and undo the damage. Wealthy individuals need to do the most work by driving ALL of their associated and embedded emissions into the negative several times over to set an example as ones who are causing the most destruction and simply operating in a carbon black market. The ones who were considered the most successful among us are right now the society failures and the laggards that need to change.

A combination of large moves and small moves by all of us will turn the tide. If you have a small carbon footprint YOU ARE HELPING, NOT HURTING, so take heart, and live to teach others how to

do it better. Frankly if people are just sheltering in place, decoupling from carbon, they are a part of the climate solution.

My final comment to offer is on the subject of Conservatism. Conservatism has been completely bastardized by a very weird political right, with a “what’s mine is mine and what’s yours is yours” attitude and thought process that does not understand the term conservation which is derived from the same root word. Conservation of the Earth’s remaining resources is being annoyed and frustrated by this group immensely.

A lot of these folk need to find the humility to realize that they need to go back and crack some textbooks to improve their grey matter, so that they can grasp simple concepts of forensics and cause and effect on a small planet. We live in a limited container together that had some self cleansing systems which have now been abused by 500%. Our greenhouse gases, every gram of them, are a personal hygiene problem that we must clean up immediately, or risk killing more on the way to our own self destruction.

Let’s all push each other to come up with personal and community ways of operating that are decoupled from fossil fuels. Push your employers to decouple and lower their emphasis on growth. To just be in existence is now being jeopardized for all of humanity and employers **must** change their ambitions to adjust to this reality or they will be held liable even more by society and by the laws of nature.

Anyone who is not alarmed by what is happening frankly needs to be institutionalized and kept out of the way. God bless us as we work to find successful approaches to this emergency.

Post Script

Relatively old prediction of consequences around destroying nature with human effluents from careless, prideful or ambitious projects:

[Amos 8:7-8](#)

(7) The LORD has sworn by the pride of Jacob:

"Surely I will never forget any of their works.

(8) Shall the land not tremble for this,

And everyone mourn who dwells in it?

All of it shall swell like the River,

Heave and subside

Like the River of Egypt.

In [Amos 4:2](#) God swore by His [holiness](#), all of His moral integrity, His very nature. He also swore by Himself ([Amos 6:8](#)), indicating everything that He is and His sovereignty over all creation. Israel was not impressed. So God says, "Look, I have sworn by My holiness and by Myself, and that didn't carry any weight with you. So now I will swear by something so great—your own pride—that you can't

refuse!" What irony! God says if He swears by something of theirs, it may mean more to them than if He swears by something of His!

This passage also shows that when man gets out of step with God, then nature too begins to suffer. Beauty begins to be replaced by ugliness. We begin to see huge piles of slag, polluted rivers, foul-smelling garbage dumps, expanding deserts, and denuded forests. Finally, when the land begins to vomit the people out ([Leviticus 18:24-28](#)), they may show a belated interest in God and His truth, but it will be too late to stop the destruction. The time is right—the fruit is ripe, so God will punish them.

Consider what is currently happening in our Western [nations of Israel](#). God shows a connection between nature and human morality; "*natural*" disasters are acts of God in response to the moral condition of the people. If men will treat other men, created in the [image of God](#), in an immoral way, how will they treat the land, forests, rivers, lakes, and oceans? Because these things seemingly cannot fight back, man will abuse them with no fear of reprisal. But God says that the environment *will* fight back and vomit them out!

Instead of rain falling in a gentle mist, it will roar like an avalanche until the inhabitants cannot cope with it. The rivers will swell and flood the land in anger, washing the topsoil into the sea. In other areas, fire will sweep over forests and farmlands, destroying everything in its path. Windstorms like hurricanes and tornadoes will devastate the cities and countryside, endangering the lives and livelihoods of the people. Earthquakes will increase in both frequency and power, costing thousands of lives and billions of dollars of damage. These disasters will mount to such an intensity that the people of modern Israel may seek [repentance](#), but it will be too late. God will not pass by anymore.

About the Author

Viva Cundliffe is completing a PhD in environmental engineering in which she has developed several non toxic remediation schemes for atmospheric problems including climate change and ozone layer repair. She is the founder and president of a technology company that safely removes all greenhouse gases from the air at the same time. She has personally committed \$750,000 of hers and other's funds to build GHG removal technology over the past 12 years. To learn more see [Reductiontech.com](#), [vivacundliffe.com](#). Viva is working to reduce the size of the need for her technology as the technology is scaled by exhorting everyone to decouple from carbon.

References

You can find most of this policy online with a little effort.

Dedicated to those who know the wisdom of living a life of moderation, but remember the righteous usurpation of authority brought to us by the Extinction Rebellion.