

THE ECOLOGICAL EMERGENCY AN ECO-SOCIALIST RESPONSE

For far too long, the modern world has pursued endless economic “growth” without regard for natural limits, the needs and claims of other species, or the fragility of the biosphere. However, physical, chemical and biological laws limit what and how we can safely produce and consume. By pushing our demands beyond these limits, modern societies are rapidly making this planet inhospitable to life. We face an ecological emergency of natural-historical proportions.

Over the past 50 years, our economic activities, above all those of the rich capitalist societies, have depleted half of the world’s forests. They have also shrunk populations of wild terrestrial vertebrates by 60 per cent, quadrupled ocean dead zones, halved fish numbers and eliminated half of all insects. Spiralling greenhouse gas (GHG) emissions are heating up the planet and disrupting the climate. Since 1970, global CO₂ emissions have increased by about 90% and average surface temperatures by roughly 0.9°C. Groundwater is depleted and polluted and natural areas exploited beyond their regenerative potential. A third of the world’s arable land has been lost due to erosion and pollution. SARS-CoV-2 is only the latest zoonotic virus to leap to humans because we are destroying wildlife habitat.

Canada plays a distinctive and outsized role in this environmental tragedy. Our economy relies on ecologically destructive, intensive and industrialised primary activities - mining, agriculture, forestry and fishing. Canadian extractive corporations deplete non-renewable resources and extract potentially renewable ones past the point of renewability while dispossessing Indigenous peoples of their traditional lands at home and abroad.

Today, though the extractive sector yields only about 10 percent of Canada’s GDP, it absorbs most of its private investment and exports. Although overall economic growth slowed in the neoliberal era since 1980, extraction accelerated as extractive corporations responded to downward pressure on primary commodity prices by expanding the scale of production, lowering costs at the expense of the environment, Indigenous peoples and workers, and relying on government subsidies. Extractive activities expanded to reach more inaccessible and environmentally damaging sources, as in the tar sands, fracking, and drilling in the deep seas or the Arctic.

Economies such as ours extract resources excessively, use energy profligately, overproduce and overconsume. They deplete resources, heat up our planet, destroy wildlife and human habitat and overload our land, water and air with wastes of all kinds. Such economies are the main drivers of the ecological emergency. Nature is neither an endless cornucopia nor a boundless sink for our waste, as conventional economics assumes.

The ecological emergency obliges our governments to act and to lead our economies in a different direction: they must promote Just Green Wellbeing - not profit and “growth” for their own sakes.

The scale and complexity of the task is enormous. Consider, for example, the Global Deal for Nature’s target of protecting half the earth’s land and water and at least 30 percent by 2030 to avert just one of the catastrophes toward which our economies are driving us: mass extinction. For Canada to meet it, it must increase the 12.1 per cent of land currently protected 2.5 times in just the next decade.

Moreover, since protection must not undermine livelihoods and cultures historically intertwined with lands and water, such as those of Indigenous peoples, Canadians can achieve this only by harmonizing our relations with Indigenous communities who were knowledgeable stewards of this land long before colonization.

The ecological emergency is a multi-faceted, existential threat. Rising to it requires us to educate, agitate and organize, and build collective political will. We must use all the tools at our disposal.

THE ECOLOGICAL EMERGENCY: DIMENSIONS

Spectacular climate strikes and protests in 2019 rightly drew our attention to the climate emergency. The ecological emergency is wider, however. It includes biodiversity loss and the pollution of land, water and air. It also touches on our relations with other species. Our entire economic model, most fully developed in the Minority World rich countries, is implicated in it.

Our economies are, fundamentally, the way our societies organise us to secure our livelihoods from the rest of nature. They determine how the part of the earth we inhabit and its products will be owned, worked, processed, enjoyed and disposed of. Practically every front of that interface between economy and ecology has contributed to the ecological emergency. It arises from

- extracting inputs from the earth at rates that go beyond its regenerative capacities and exhaust finite resources;
- using energy prodigiously in extraction, processing, transport and consumption, whether it is drawn from climate warming fossil fuels, ecology-destroying hydroelectric megaprojects or dangerous nuclear power; and
- over-consuming goods and services, while burdening the earth with exhaustion, waste and heating.

This is why the ecological platform outlined here must frame, and be framed by, our economic platform, 'Just Green Well-being'.

Given Canada's disproportionate reliance on extraction, the extractive sectors - agriculture mining, forestry and fishing, along with our high-energy and high-carbon transportation systems, must be priorities in our response to the ecological emergency. Other fronts are our relations with other species, involving restoring biodiversity, ending industrial livestock operations that cross ethical and prudential limits, transforming our agriculture toward agro ecology and cleaning up and ending pollution.

OUR APPROACH

We proceed from the basic assumption that, though part of nature, human societies have organised their relations with the rest of it in perverted ways that are accelerating our encounter with ecological doom. Conscious social action to transform our economies and establish a new harmonious relation with the rest of nature is imperative at the local, national and international levels.

This assumption has been lacking in our ecological response so far. Natural and social scientists have vastly expanded our ecological knowledge of the dangers and the solutions and millions agitated for effective responses. Nevertheless, successes have remained local: air quality has improved here, recycling has been introduced there. At the national and international levels, where powerful forces with vested interests in our present economic model operate, we have seen lofty promises, but only modest advance..

It is time for an eco-socialist approach because, without democratic socialism, we cannot protect the environment.

The climate emergency is a condemnation not of humans, but of ecologically destructive capitalism.

Eco-socialism rejects this reigning model. It burdens the earth with the greed of the few and the desperation of the many. To address the ecological emergency, human societies must be re-organised for equity and for collective action. Without them, neither the solidarity and cooperation nor the social action necessary for effective responses will be forthcoming.

An eco-socialist reorganization of our economies will require increased social control but will also have ample scope for well-regulated and socially meaningful private enterprise, with family-owned, local firms and worker cooperatives being central to our vision of a culturally vibrant and ecologically sound society.

Our Eco-socialist approach has three key elements:

1. Socialisation

Socialization will create publicly, cooperatively or collectively owned and democratically run productive units governed not by profit but social and ecological goals set by stakeholders.

We must distinguish it from nationalization, which has typically created crown corporations functioning no differently from their private counterparts. Socialization will be directed, first and foremost, at taking large corporate extractive concerns into public ownership so that we can:

- phase out fossil fuels;
- reach net zero emissions, preferably by 2030 and by 2040 at the latest;
- reorganise the production of socialised firms within scientifically and democratically determined sustainable levels;
- protect essential habitats and cultural areas around them;
- create high quality employment, allowing workers to innovate and create world-class knowledge;
- conduct research and development (R&D) for sustainable technologies; and
- ensure that workers in phased-out activities and corporations have high quality new employment in the emergent Green economy.

Boards of socialised firms will be composed of stakeholders, including workers, citizens, Indigenous communities, and provincial and federal governments. Indigenous groups, on whose traditional lands a unit is located, will have veto power over issues that affect their land, cultural heritage and communities most directly.

2. Regulation

Both socialised and private firms will be effectively regulated for conformity with social and environmental standards by agencies staffed with stakeholder representatives as well as professional experts.

We will halt the drift toward mythical “self-regulation” and regulatory capture. We will end the cult of expertise and technocracy that so often aids them.

3. Partnership, Transparency, Democracy

We will work in partnership with stakeholders and other levels of government, including Indigenous governments, to institute rules to ensure both democracy and transparency in all activities.

We outline below the actions we propose to take with this approach on the three main fronts of the ecological emergency. The three fronts are interconnected with each other and with others of the ecological emergency and our response to it.

COMBATting CLIMATE CHANGE

With each degree of warming above pre-industrial average temperatures, the scenario grows grimmer. We witness searing heat waves, sea level rises that threaten islands and cities, the collapse of coral reefs, widespread famine, mass migration, accelerated species extinction and zoonotic viruses. Without profound economic changes, especially in richer societies and social strata, the world has no chance of staying below the already dangerous 1.5°C or even 2°C of warming. According to a 2019 United Nations Environment Programme (UNEP) report, without dramatic course correction, we are on track to increase temperatures by a terrifying 3.2°C above pre-industrial levels by 2100.

We will advocate a rapid reduction of carbon emissions so Canada plays its full part in halting global warming. In doing this, on the one hand, we must obtain sufficient net energy from renewables to keep the rest of the economy going will take considerable investment. On the other, a less rapid transition to renewables will exacerbate climate change. We must also ensure that Canadian carbon emissions are not reduced simply by shifting production abroad.

To prevent this, we will undertake to establish annual, declining, binding carbon emissions budgets. Their levels will be set by the best available science and Canada's equitable share of the global remaining carbon budget to have 66% chance of limiting the global temperature rise to below 1.5 °C as determined by the Intergovernmental Panel on Climate Change (IPCC).

In accordance with the precautionary principle, these annual budgets will not be based on assumptions of possible future negative emission technologies.

We will aim to achieve net zero emissions by 2030 or come close to it, completing the task soon thereafter, as is prescribed by our equitable share of the global remaining carbon budget.

The extractive industries, energy, and transportation have the largest ecological footprints and are primarily responsible for Canada's outsize per capita GHG emissions. Reducing them must be combined with social justice for workers and consumers and for the Majority world and socialisation is designed to do precisely this.

The costs of these industries are already substantially socialised thanks to Provincial and Federal subsidies. It is only fair to socialise their profits and the decisions that have become urgent in addressing the ecological emergency.

We will undertake to work with all levels of governments, Indigenous peoples and other stakeholders to socialize the energy sector immediately and completely, and mining, forestry and transport less completely and over a longer period.

ENERGY

The immediate socialisation of energy will enable us to phase out fossil fuels beginning with the most ecologically damaging, and eventually covering the entire fossil fuels and petrochemicals sector, winding it down in an economically, ecologically and socially responsible manner. This will also involve

- an immediate moratorium on tar sands oil extraction;
- aid to Alberta in developing green energy and a more diversified and green economy;
- a ban on 'fracking';
- halting oil and gas exploration;
- halting expansion of fossil fuel infrastructure, including pipelines;

Transition to green energy through

- investment in centralised and decentralised green energy production, through windmill and solar panel farms and household- and firm-scale windmills or solar panels;
- socialised agencies incentivising decentralised green energy production by aiding installation and purchasing surplus energy;
- a national smart electrical grid to optimise energy use; and
- minimizing consumption by incentivising installation of energy efficient devices.

MINING

We will socialise mining over a 10-year period beginning with the largest and most ecologically consequential units. We will aim to:

Make mining more socially and ecologically responsible by

- social and ecological regulation of operations at home and abroad; ending extractive subsidies;
- pricing products to reflect their true cost, including social and environmental costs;
- creating or joining international ecological cartels to raise primary products prices to levels reflecting these costs;
- regulating the Toronto Stock Exchange to end its role in speculative and questionable projects in Canada and abroad and make it an ecologically and socially responsible investor platform; and
- socialising firms unable to withstand this new eco-socialist regulatory environment.

Make the Canadian economy less reliant on extraction by

- reducing mining production to levels matching ecological sustainable and socially just processing capacity in Canada and need in green technologies; and
- ceasing or reducing the export of unprocessed mining products to levels minimally necessary to meet Canada's trade needs.

FORESTRY

We will socialise forestry over a 10-year period, beginning with the largest and most ecologically consequential units. We will aim to: **Make forestry more socially and ecologically responsible by**

- social and ecological regulation of operations at home and abroad; ending subsidies;
- pricing products to reflect their true cost, including social and environmental costs;
- creating or joining international ecological cartels to raise primary products prices to levels reflecting these costs;
- planting and harvesting in a sustainable manner, phasing out clear cuts for selective harvesting and thinning;
- rapidly phasing out harmful chemicals in forestry;
 - restore biodiversity by regenerating forests through re-wilding, not monocultures;
 - setting restoring and increasing endangered species populations;
 - reintroducing lost species in federally controlled land; and
 - cooperating with Indigenous peoples in all of the above to employ, preserve and develop their culture, knowledge and practices of land stewardship.

Contribute to climate change mitigation by

- designating for CO2 offset forest growth whatever portion of land can help attain net zero carbon emissions by 2030.

Make the Canadian economy less reliant on extraction by

- reducing forestry to what can be processed in Canada in an ecologically and socially sustainable manner and is necessary for use in green products and for trade needs;
- ceasing or reducing the export of unprocessed forestry products to levels minimally necessary to meet Canada's trade needs;
- implementing a ban on logging in Canada's few remaining old growth forests; and
- ending the wasteful use of old growth wood for paper production and other low value uses, reserving fine timber for use as such.

FISHERIES

Fisheries and fish supplies are threatened by overfishing, habitat destruction, ocean warming and pollution, as are coastal communities reliant on them. The problem has critical inter-provincial and international dimensions.

We will work with provincial governments and, where necessary, in international forums to:

- regulate Canada's inshore fisheries to prevent overfishing; promote small, owner-operated fisheries against corporate operations;
- reduce fisheries exports;
- ban ecologically destructive and biodiversity damaging practices such as trawling and long lines;
- regulate aquacultures to prevent public health hazards and contamination of the marine waters;
- promote research into the state of the freshwater bodies and oceans and aquatic life in them;
- enter into international agreements and work with allies to stop overfishing; and
- regulate recreational fishing to remain within limits of sustainability of the relevant water body and species.

TRANSPORTATION

Transport is critical to well-being and human development, but also a major threat to the environment, accounting for 30% of Canada's emissions in 2018. Canada's transport system suffers from the subsidized and profit-driven private monopolization of land, air, rail, and water routes, the long-term neglect of public transport, and a car and truck culture.

The resulting system is not only climate-heating, resource depleting and polluting, but also self-defeating as congestion slows inner-city traffic to a crawl and fuels suburban sprawl, while underfunded and ailing public providers such as Via Rail and municipal mass transit cannot provide service of adequate quality and quantity, often leaving small rural communities isolated.

We aim for an integrated, emissions-free, socially just, convenient and affordable transport system within and between cities, domestically and internationally. Ecologically sound and affordable urban public transit in cities, combined with active transportation displacing the inefficient, wasteful and unsafe overuse of private transport, will be critical. Specifically, we will take the following measures:

Air Travel

The major airlines, already nearing bankruptcy under the impact of the pandemic and responsible for a disproportionate contribution to GHGs, should be taken into public ownership, and operated to:

- minimise ecologically destructive short-haul flights;
- price air travel to reflect its true ecological, social and economic cost;
- develop year-round low-cost alternatives to air transport for remote communities; and
- cooperate with other countries whose airlines serve Canadian airports to do the same.

An integrated, emission-free rail and road system

- to replace emissions-generating short-haul air travel and long-distance private car use,
- electrified green railways will provide the spines of an integrated road and rail system which roads will feed into; and
- subsidies to green vehicle users and bus fleets will be combined with the gradual end to fossil-fuel private transport.

Water transport

Shipping is a source not just of emissions but also of ecological threats posed by oil spills. We will:

- impose stringent emissions standards on vessels owned by Canadian firms and on vessels entering Canadian ports;
- promote the use of hybrid and fully electric alternatives to fossil fuels on waterways and coastal transport to complement the rail and road system; and
- impose polluter pays principles for oil-spills, seizing and impounding vessels of offenders where necessary.

Urban Transit and Private Cars

To replace the overuse of private vehicles in cities, we will:

- develop a national strategy for green, affordable and convenient urban transit systems with active transport components in partnership with city and provincial governments, making them not only more efficient and safer but also more popular and attractive than private cars;
- consult fully with Indigenous and remote communities to provide the transport system which serves their needs;
- eliminate fossil-fuelled private transport, reducing congestion;
- organise the transition to zero-emission vehicles, including related infrastructure; and
- incentivise them through subsidies, parking privileges, access to special highway routes, and the like while penalising polluting modes of transport to reflect their environmental and social cost.

PROMOTING INTERSPECIES SOLIDARITY

Scientists recognise biodiversity loss as a danger equal to climate change. It erodes our economies, livelihoods, food security, health and quality of life. Experts attest that we are amid a sixth mass extinction, the first induced by human activity. The 2019 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report warned that one million species of animals and plants are likely to disappear, some in short order.

The World Wildlife Fund (WWF) found that vertebrate population counts fell by an average of 60 per cent between 1970 and 2014, ocean fish numbers were halved and heavily fished species, such as tuna and mackerel, were down by nearly 75 per cent.

Insect populations are collapsing too. This “great thinning” is dangerously normalized as each generation encounters a more impoverished natural world and calibrates loss from a lower baseline.

Our relation to other species is marred by two other problems: our disregard for animal welfare, particularly in our industrial livestock farming and our industrialised forms of agriculture generally.

Our negligence of other species and their needs, our destruction of their habitat and industrial farming is beginning to boomerang on us as is clear from the increasing emergence of zoonotic viruses from the HIV of the 1980s to today’s novel coronavirus.

Interspecies solidarity is both an ethical imperative and the necessary condition for our survival.

PRESERVING AND RESTORING BIODIVERSITY

Habitat loss, degradation of land (through deforestation, agriculture, industrial development, urbanization, and pollution), direct human predation (unsustainable levels of hunting and fishing), climate change and pollution are all driving the ongoing sixth mass extinction. The 2017 WWF Living Planet Report revealed

that more than half of Canadian wildlife species have dwindled by an average of 83 per cent between 1970 and 2014.

- To combat biodiversity loss, We will advocate working in partnership with Indigenous communities and provincial governments to: prepare and implement a schedule to increase Canada's protected land and water bodies to at least 30 percent by 2030, rising to 50 percent soon thereafter, beginning with areas with the highest number of at-risk species;
- explore the possibility of increasing Canada's contribution to the world's protected areas;
- fund biodiversity recovery plans of local and provincial governments and *bona fide* environmental organizations;
- prohibit trade in exotic animals and adopt stricter measures to deter illegal trade in wildlife; and • ban trophy hunting.

Promoting Animal welfare

Our system of livestock production and consumption, pet ownership and their legal system and culture reduce animals to commodities and instruments for the satisfaction of our corporate-influenced wants without regard for their needs or wellbeing, but science tells us that non-human animals are sentient and intelligent. To put Canada on a path toward animal welfare, we will:

- legally recognise the status of non-human animals as sentient beings (as in France, Québec and New Zealand);
- with the guidance of independent experts, protect farmed animals with strict standards of care (including abolishing gestation crates, veal crates and battery cages, de-beaking and tail docking);
- amend animal transport regulations to protect animals from being transported for long periods without food, water, rest, room for movement or protection from the elements;
- phase out captivity of wild and exotic animals for entertainment (in circuses, aquariums, zoos, safari parks, roadside zoos, etc.);
- set up a federal oversight regime for animal testing; and
- prohibit commercial breeding of dogs and cats for sale until there are no adoptable companion animals being put to death in shelters.

AGRO-ECOLOGICAL AGRICULTURE

Our profit-driven, chemical and energy dependent corporate industrialised agriculture focuses exclusively on increasing production and exports and reducing prices, ignoring 'external' costs such as soil and water pollution and exhaustion, resource depletion, habitat destruction, global warming and injury to public health.

Animal farming is particularly problematic. Livestock production takes up a staggering 30 percent of the earth's ice-free land surface, uses a third of world grain output to feed livestock, contributes 15 to 37 percent of GHG emissions through methane produced by ruminant animals and their manure and energy used in livestock operations, and contributes to deforestation, reducing carbon capture. Yet meat production in Canada is on the rise with more than 833 million land animals killed in 2019 as against 750 million in 2015. Millions more are shipped to other countries for slaughter.

The most progressive voices, including the 2019 EAT-*Lancet* Commission and the 2019 Special Report on Climate Change and Land by the Intergovernmental Panel on Climate change, call for an agroecological food system. It would be:

- controlled by smaller producers and consumers, not large corporations;

- geared to local needs, not exports;
- ecologically regenerative and organic, not reliant on chemical inputs;
- resource light, not resource intensive;
- human-scale, not massive-scale;
- resilient through crop and animal diversity not vulnerable through monoculture;
- served by skilled workers, no de-skilled, badly paid ones; and
- organised to work with nature not against it.

Such a system would also feed more people more sustainably by reducing wasteful livestock production while making diets healthier. The recent Canadian food guidelines have encouraged plant-rich diets, recommending doubling consumption of fruits, vegetables, legumes and nuts, and drastically reducing if not eliminating less healthy foods heavily marketed by corporations such as added sugars and red meat.

Finally, we waste 60 percent of the food we produce at various points in our food system as agricultural subsidies encourage overproduction, food is destroyed to prop up prices, marketing stimulates excess purchases, factories, supermarkets and restaurants throw away food and arbitrary best-before dates encourage waste. Decomposing food waste is a significant contributor to GHG emissions and represents a waste of non-renewable fossil fuels, materials, land, water and labour and animal lives expended in production, processing, packaging and transportation. By some estimates, food waste accounts for four per cent of Canada's GHG emissions.

To transform our agriculture in light of these problems, we will advocate:

Replacing corporate industrial with agro-ecological farming

- redirecting subsidies from the former to the latter;
- regulating farming to agro-ecology principles and practices;
- supporting small farmers in adopting them and providing them with science-based expertise;
- facilitating access to farmland for new agro-ecology farmers, including by aiding its transfer from retiring farmers;
- returning to socialised public monopoly marketing boards which offer prices for key agricultural commodities geared to support small agroecological farmers and designing policies to support their sustainable production;
- supporting the rapid phase-out of glyphosate-based herbicides;
- phasing-out all unnecessary and harmful chemical inputs; and
- ensuring agricultural exports are compatible with food security of other countries.

Promoting Public Health

- supporting all levels of government in fully implementing the new science-based guidelines and the recommendations of the EAT Lancet Commission Report by 2025;
- reducing meat and animal-product consumption per capita by 50 percent by 2030;
- launching an extensive promotional campaign to that end, modelled on the antismoking campaign; and
- supporting innovation in plant-based food production, distribution, procurement and promotion.

Ending Food Waste

- setting a national target for food waste reduction for producers, manufacturers; processors, retailers and federal institutions;
- building an educational campaign around it;
- monitoring food waste throughout the food system;

- regulating best-before dates scientifically to ensure food safety and eliminate waste;
- lifting barriers to donations of edible food by industry and retailers; and
- supporting consumer education efforts aimed at food waste reduction.

REVERSING AND PREVENTING POLLUTION

Hazardous electronic waste, groundwater contamination from fracking, acid rain, Great Lakes pollution by agricultural runoff and the Great Pacific Garbage patch are some of the more publicised scourges, though the problem of pollution of the land, water and air is far more pervasive.

On a per capita basis, Canadians are among the biggest producers of waste. All of it must go somewhere: on land, into water or into the air. Moreover, they do not remain in these “sinks.” Very often, natural processes transform or transport waste, carrying its toxic effects far and wide, even to other sinks.

Acid rain is a good example. Sulphur and nitrogen oxides from combustion and smelting mineral ores acidify rain, snow and dust and cause damage to freshwater fish, forests, agriculture and buildings. What starts out as air pollution ends up polluting lakes and rivers and damaging anything it touches. Such pollution respects no borders. Fifty per cent of Southern Ontario’s air pollution comes from the United States.

We long ago exceeded the capacity of natural systems, locally, regionally and globally, to degrade our waste. Fossil fuel combustion emits more carbon dioxide than vegetation can fix while releasing oxygen.

Synthetic materials may be durable, strong, functional and inexpensive compared to natural alternatives, but they are also difficult, even impossible, for nature to break down. New materials, such as such as nanoparticles, have properties we understand only poorly. *We propose to:*

Establish a national waste management strategy for legacy pollution including

- a ban on exporting Canada’s waste;
- a ban all single use plastics;
- enforcement of polluter pays; and
- new industries and R&D to reduce and safely dispose legacy waste.

Prevent new pollution by

- prohibiting waste diversion into dumps;
- including the cost of environmental cleanup and eventual disposal and/or decommissioning of all elements of the product, including production plant and packaging, in the cost of products;
- requiring producers to organise said disposal and clean up;
- prohibiting products that are not amenable to such treatment; and
- undertaking R&D for natural safe and economical substitutes;

Maintain a complete material audit system, from extraction through processing to disposal.

As young and old climate-strikers have demonstrated, the ecological emergency was already upon us when the pandemic highlighted another dimension of it. We can no longer go on abusing the nature that nurtures us.

Our eco-socialist approach provides the most effective response to the ecological emergency. It promotes equity and justice at home and abroad and creates the collective agency for actions. These are the necessary elements of a response, based on solidarity and international cooperation, the planetary emergency requires. Only such a response can repair humanity’s broken relation to nature. It is also the essential foundation for just green wellbeing the world over.