

**COURTNEY
HOWARD**
MD **A HEALTHY FUTURE**



HEALTHY PEOPLE HEALTHY PLANET

PLATFORM

Dr. Courtney Howard et al.

August 13 2020



Message from Dr. Courtney Howard

We are at a moment of crisis and instability: in the next few years we need to solve COVID-19, its economic fallout, and the climate emergency with the same set of policy measures, working from the same pool of common resources. Humanity has never faced a bigger task. It is a time of anxiety, dislocation—and opportunity.

Have you ever dreamed of saving the world? Here's your chance. I know you're tired, your kid may be quite literally climbing you like a human jungle gym as you read this, you're desperately worried about your job situation, and are grieving the loved ones that you can't visit. Be kind to yourself. It's a pandemic. We have been struggling to keep the wheels on our personal lives. But we're emerging from our cocoons—and now is the moment for crisis cooperation. We are never going to get a better chance than now to set a path for a healthy future.

Planetary Health is defined by the prestigious medical journal, the *Lancet*, as “the health of human civilization and the state of the natural systems upon which it depends.”¹ I've been fortunate to develop my understanding of it in the company of both some of the world's top academics and some of its foremost practitioners--Indigenous thinkers and Elders in one of the most rapidly-warming places in the world: Canada's Arctic and Subarctic. This platform is built around optimizing it, now and into the future. Because for healthy economies and healthy people--we need a healthy planet. For a 16 minute intro to planetary health, please see my [TEDX Talk here](#).

Here's the Basic Plan:

¹ "Safeguarding human health in the Anthropocene ... - The Lancet." 16 Jul. 2015, thelancet.com. Accessed 11 Aug. 2020.

SHIFT VISION

1. Create an Economy Centered on Wellbeing

What gets measured gets managed. Gross Domestic Product has been our default measure of national success, but was never designed for that purpose, and doesn't correlate well with wellbeing in high-income nations. We need a meaningful shared goal to guide our efforts as we steer through these crises--a new North Star. We propose a Wellbeing Dashboard that tracks the 4 capitals: Natural Capital, Social Capital, Financial Capital, and Human Capital, which ensure health and safety now and into the future, as well as specific indicators of wellness drawn from the work behind the Canadian Index of Wellbeing. Finance Canada will use this dashboard to complement GDP as part of our national budgeting process. It's been done in New Zealand. We can do it here. Additionally, we propose that the Parliamentary Budget Officer estimate the health and social costs and benefits of all policies in their reports, in order to make clear, for instance, the cost savings to health resulting from investments in electrifying transport.

2. Protect our civilizational nest with a healthy response to climate change

COVID-19 is showing us what a planetary health crisis feels like. Unfortunately, not only does a changing climate make future pandemics more likely, but it also increases the risk of asthma from wildfire smoke, traumatic evacuations, deaths from heat waves, crop failure, malnutrition, refugee crises, conflict, and more. This is why the World Health Organization calls climate change the biggest global health threat of the 21st century. To give today's children a chance to thrive, we must create a long term framework for adaptation and emissions reductions with a Canadian Climate Accountability Act that prevents policy flip-flops and ensures investment certainty. This will help us **prepare** for the 2°C of warming we will see in Canada by mid-century, and **prevent** the impacts we won't be able to cope with. A healthy recovery from COVID-19 that prioritizes clean electricity, electrified transport, efficient buildings, green urban environments, and sustainable healthcare can save 112,000 lives through air pollution reduction and generate 1.2 million jobs in clean energy between 2030 and 2050--while setting children up for a healthy future.

3. Nurture dynamic stability within a rapidly-changing world

We have entered what is likely to be a prolonged period of transition and must greet this with a commitment to the processes and institutions that increase our resilience and agility. We can strengthen our social safety net at home, and lean into the international institutions that help us get along globally: increase funding to the WHO, and support the Green Climate Fund. As we transition, we must protect human rights and ensure that the actions we take in Canada don't have harmful side-effects elsewhere in the form of offshored emissions or poor working conditions. Just as when going through rapids in a canoe--teamwork, hard work, and communication will be key.



To create systems to enable the vision.
Being at the table matters.

4. Honour Indigenous Governance

Indigenous peoples are the original practitioners of planetary health--studies show that areas under their management have higher biodiversity than conservation areas. We must respect the commitments we've already made to our Indigenous Peoples: align our laws with the United Declaration on the Rights of Indigenous Peoples, accelerate the implementation of the calls to action of the Truth and Reconciliation commission, and ensure Indigenous judges are appointed through the judicial system.

5. Power Up New Leaders

Being around the table matters. There could be no better moment than a time of overlapping planetary health crises to harness the talent pool of all of humanity: an increase in female decision makers is correlated with pro-environmental decisions and decreased mortality. To power parliament with more diverse voices and make sure all the best ideas see the light of day, we can lower the voting age to 16 and reduce barriers with campaign schools and mentorship, while ensuring access to virtual tables and the virtual economy by closing the digital divide.

6. Ensure Evidence-based Influence

Our best chance for lasting health rests on setting our sights on optimizing wellbeing, and using the most evidence-based policy measures to bring it to life. Currently, however, academic incentives do not align with policy influence, and industry is out-lobbying evidence-oriented actors. We must revisit research granting structures and treat the time of our federal decision makers and staff as the scarce public resource it is through ensuring a 1:1 ratio of facetime with nonprofit and profit-based influencers, and conducting essential pieces of public policy without closed-door meetings with industries where a conflict-of-interest exists that puts healthy outcomes at risk.

SHIFT MONEY

To reduce toxic inequality, and give people the resources they need to stay safe and healthy now—while investing in each other, and the building blocks of a safe and healthy future.

7. Fair Share

Inequality is toxic to society--it is associated with decreased trust, worsened mental and physical health, decreased women's empowerment and child welfare, and increased criminality. We can put safety first and get back to basics by taxing wealth and multinational corporations, and put that towards funding a Universal Basic Income on a trial basis for at least the next year of the crisis.

8. Put Care at the Core

Since the beginning of the pandemic we have spent an extra \$16 billion dollars supporting fossil fuel energy, only \$2.1 billion on clean energy, and only \$625 million dollars on additional federal support for childcare. These are not the actions of a species that is acting in its own best interest. We need to eliminate subsidies for fossil fuels and shift them towards a low-carbon transition, a National Seniors Strategy, and a Community Care Act, working towards universal public childcare, pharmacare, psychological care and dental care.

9. Make What the World Needs

The intersection of multiple crises in a rapidly-changing world demands an agile workforce able to switch gears mid-career with the help of forgiven student loans and free tuition. We can make innovation Canada's new calling card by funding outcome-oriented research, and put Canadians to work creating green shelter, reclaimed spaces and materials, responsibly-mined critical inputs, and local, sustainably-farmed food.



You want details? We've got details. Read on, for the full, gloriously nerdy version of the above.

It's a time of tremendous change. The future won't look like the past. But if we focus on clean air, clean water, good food, and each other—it can be vibrant.

In 2050, let us look back from our net zero, resilient world, and give thanks for the courageous decisions we made during the pandemic of 2020.

Join us for a healthy future. We can do this.

Sending warmest greetings from Yellowknives Dene Territory,

A handwritten signature in black ink, which appears to read 'Courtney Howard'.

Dr Courtney Howard, MD, CCFP-EM
Emergency Physician, Yellowknife. NT, Canada

SHIFT VISION

National Vision of Health & Wellbeing

An explicit overarching national focus on wellbeing, now and into the future, will guide our management of three crises: Covid, Economy, and Climate.

We can do this.



1. ECONOMY OF WELLBEING

Overview

In order to set our new path, we need a shared vision of what is valuable, what is desirable, and what we are willing to work for. In the next few years we must manage COVID-19, the inequities laid bare by its economic fallout, and the climate-emergency with the same set of policy measures, working from the same pool of common resources. Humanity has never faced a bigger task.

Yet this time of anxiety and dislocation also brings opportunity. Like a complex LEGO structure sent flying by a sprinting toddler, our world has been disrupted, and now we get to put it back together--better.

It is a moment to consciously define what we consider to be success as a country. We believe that an overarching vision of a society based on optimizing health and wellbeing, where each of our decisions is designed to take us a step closer to thriving now and into the future, answers our shared desire for hope and healing.

Plan

Use a Wellbeing Dashboard to measure progress and guide budgeting..

Ask the Parliamentary Budget Officer to include estimates of the health and social costs and benefits of all proposals in their reports.

We envision an economy where *Gross Domestic Product* is viewed as one number on a dashboard of outcomes that integrates elements of the 4 capitals, Natural Capital, Social Capital, Human Capital, and Financial Capital, as well as various components of physical health, mental health, financial health, equity, and political voice. The New Zealand treasury has successfully created such a dashboard, and uses it to inform budget decisions. The Canadian Index of Wellbeing includes many of these elements and can be used by Finance Canada to inform the development of a Wellbeing Dashboard.

This societal vision of wellbeing will then be brought to life through evidence-based policy measures which build strong ecological foundations and support a home for thriving people whose wellbeing is enhanced through equitable social systems, a sustainable economy, financially healthy households, and care for physical and mental health, while respecting the wellbeing of all people, and the planet we share.

*"What we measure affects what we do. If we have the wrong metrics, we will strive for the wrong things. In the quest to increase GDP, we may end up with a society in which most citizens have become worse off."*²

—Joseph Stiglitz, Nobel Prize-winning Economist et al.

*"the welfare of a nation can scarcely be inferred from a measurement of national income."*³

**—Simon Kuznets, the economist who crafted the
Gross Domestic Product (GDP) measurement.**

*"..we need to choose our economic policies wisely. We cannot expect economic growth to deliver sustainability, or green growth to deliver social equity. If we want to achieve a sustainable and just society, then we need to move beyond the pursuit of growth, and target these outcomes directly."*⁴

**—Daniel W. O'Neill, Nature Sustainability,
April 2020, 260-261**

² "Mismeasuring Our Lives | The New Press." thenewpress.com/books/mismeasuring-our-lives. Accessed 26 Jul. 2020.

³ "National income, 1929-1932 - FRASER (St.Louis Fed)." fraser.stlouisfed.org. Accessed 26 Jul. 2020.

⁴ "Beyond green growth | Nature Sustainability." 16 Mar. 2020, [nature.com/articles/s41893-020-0499-4?draft=collection](https://www.nature.com/articles/s41893-020-0499-4?draft=collection). Accessed 26 Jul. 2020.

HEALTHY PLANET, HEALTHY PEOPLE



Health care is responsible for about **25%** of overall health outcomes

health care



social + systemic factors



ecological foundation

What contributes to health and wellbeing? Although hospital and clinic-based work is critical, it turns out that health systems determine only an estimated 5-25% of overall health status.^{5,6,7,8} The ecological determinants of health, things like soil, water, biodiversity and the climate have direct health impacts.⁵ They also underpin our ability to create the political, social, and economic systems that give rise to important social and structural determinants of health—the most critical being income, with housing, education, political voice and elements of culture also important.

⁵ "A HEALTHY, PRODUCTIVE CANADA: A DETERMINANT OF" sencanada.ca. Accessed 11 Aug. 2020.

⁶ "County Health Rankings & Roadmaps – Population Health" <https://uwphi.pophealth.wisc.edu/chrr/>. Accessed 11 Aug. 2020.

⁷ "Necessary But Not Sufficient: Why Health Care Alone Cannot" ncbi.nlm.nih.gov/pmc/articles/PMC6827630/. Accessed 11 Aug. 2020.

⁸ "The Relative Contribution of Multiple Determinants to Health" 21 Aug. 2014, healthaffairs.org/. Accessed 11 Aug. 2020.

When it comes to wellbeing, life evaluations conducted across nations found that four factors account for about half of explained differences in happiness: having someone to count on, generosity, having the freedom to make life choices, and absence of corruption.⁶ In a recurring theme, health and income make up most of the rest of the differences. Other studies find that people are happier when spending time in green spaces than in grey urban areas,⁶ and that doing good feels good--humans enjoy "prosocial" behaviours, like giving money away, more than they think they will.⁶

Encouragingly, most of the key elements of wellbeing and happiness don't require more stuff or increased draw on the planet's resources. They require that we invest in fair, transparent social systems, and in one another. However, sometimes our current siloed budgeting system prevents us from seeing the benefits of investing in what matters. For example, money spent on cross-Canada electrical transmission lines that allow us to transition to clean electricity will decrease air pollution and result in savings to provincial healthcare systems. To account for this we need to broaden the elements we include in our equations to include both positive and negative externalities, and make the links between siloed departments. A wellbeing oriented budgeting process is a step in the right direction.

Meanwhile, inequality proves to be the kryptonite of happiness and wellbeing. More unequal societies are associated with lower levels of trust, increased mental illness (including drug and alcohol addiction), reduced life expectancy, worsened rates of infant mortality, increased obesity, worsened children's educational performance, increased levels of births to teenagers, more homicides, and higher imprisonment rates.⁷ Inequality is toxic—it's not even good for rich people. So for a healthy society we need to decrease inequality.

Feeling good can also be enhanced by doing good. There is substantial emerging evidence that humans are more naturally inclined to kindness and helpfulness than dominant cultural narratives would have us believe,⁹ and that group-based work in service of a healthy climate can decrease ecological anxiety and grief.¹⁰ This is excellent news, because to emerge from our trio of emergencies on a safe and healthy path we need crisis cooperation to overwhelm crisis capitalism.

This solidifying understanding of what constitutes a good life and a thriving community demands new metrics, because what gets measured gets managed. The New Zealand treasury has successfully created a Wellbeing Dashboard incorporating natural capital, social capital, human capital, as well as components of physical health, mental health, financial health, equity, and political voice, and uses it to inform budget decisions along with GDP. This allows GDP to continue to be taken into account, but compensates for its weaknesses. These include the fact that GDP ignores volunteer work and unpaid work within the home, counts as positive elements such as disaster clean-up, averages out inequalities that harm individual and societal health, and does not itself correlate well with wellbeing in high-income countries like Canada.⁶ The Canadian Index of Wellbeing was developed using an extensive consultation process and takes into account many of the above elements.¹¹ It is time for the Department of Finance to incorporate the best of International and home-grown ideas into a Wellbeing Dashboard to guide our new Economy.

⁹ "Humankind by Rutger Bregman | Little, Brown and Company." [littlebrown.com](https://www.littlebrown.com/). Accessed 10 Aug. 2020.

¹⁰ "Ecological grief and anxiety: the start of a healthy response to" 1 Jul. 2020, [thelancet.com](https://www.thelancet.com/). Accessed 12 Aug. 2020.

¹¹ "Home | Canadian Index of Wellbeing | University of Waterloo." uwaterloo.ca/canadian-index-wellbeing/. Accessed 11 Aug. 2020.



The Treasury's Living Standards Framework

To help us achieve our vision of working towards higher living standards for New Zealanders, we developed the Living Standards Framework. Our Living Standards Framework provides us with a shared understanding of what helps achieve higher living standards to support intergenerational wellbeing.



New Zealand's Treasury's Living Standards Framework

In detail

Why have we been so obsessed with Gross Domestic Product? It has been a useful tool for economists and policymakers. It is straightforward to calculate (the total market value of all goods and services produced in a country in a year), easy to interpret (bigger is better), easy to compare between years and jurisdictions, and objective. In low- and middle- income countries it is a proportionately more important component of wellbeing. Kate Pickett and Richard Wilkinson write, "Whether we look at health, happiness or other measures of wellbeing, there is a consistent picture. In poorer countries, economic development continues to be very important for human wellbeing. But as nations join the ranks of the affluent developed countries, further rises in income count for less and less."¹² In a country like Canada, I think of it the way I think of blood pressure--I want to know what it is, if it's high, low, or moving up or down...but the thing my patient and I really care about isn't blood pressure--it's whether the treatment I gave them for their heart attack is clearing their blocked artery and saving their life. It has an impact on my main outcome of interest...but it isn't the meaningful outcome itself.

¹² "The Spirit Level | The Equality Trust." equalitytrust.org.uk/resources/the-spirit-level. Accessed 10 Aug. 2020.

What about GDP growth? Within this framework, should we aim for GDP growth? Should be agnostic about it as Kate Raworth suggests? Should we aim not to grow the economy? Some thinkers point out that even countries such as the United Kingdom, which appears to have successfully decoupled its greenhouse gas emissions from growth, have done so to a far lesser extent when non-greenhouse-gas inputs or the embodied emissions in the products it consumes are taken into account.¹³ They advocate for degrowth, and abandoning GDP measurement, while cautioning that, “a monetary system based on interest-bearing debt is incompatible with a non-growing economy, meaning that transformative monetary and financial policies would be required to escape growth imperatives and allow degrowth to be pursued without generating crises of mass unemployment and inequality.” Those who advocate for a steady-state economy, defined as “a constant flow of throughput at a sustainable (low) level, with population and capital stock free to adjust to whatever size can be maintained by the constant throughput beginning with depletion and ending with pollution,” similarly urge caution, saying,

“a steady-state economy is not a failed growth economy. An airplane is designed for forward motion. If it tries to hover it crashes...Likewise, a steady-state economy is not designed to grow”.

The Tragedy of Growth — Positive Money¹⁴

Most likely, the middle of a pandemic is not the right moment to rebuild Canada’s monetary and financial machinery beyond what is required to facilitate our path for the next few years, but as we sail into more stable waters, these considerations can, and should, be revisited.

¹³ “The Tragedy of Growth - Positive Money.” positivemoney.org/publications/tragedy-of-growth/. Accessed 10 Aug. 2020.

¹⁴ “The Tragedy of Growth - Positive Money.” <https://positivemoney.org/publications/tragedy-of-growth/>. Accessed 12 Aug. 2020.



2. SHORE UP OUR NEST

Overview

Our home is our nest: a healthy environment is our safe and strong foundation for a healthy future

The World Health Organization says that climate change is the greatest global health threat of the 21st century. Meanwhile, tackling climate change is our greatest health opportunity, because many measures that decrease greenhouse gas emissions also make us healthier right now through improvements in air pollution, activity levels, diet, access to green spaces, and more.

1. Framework

Canada must establish a decarbonization framework, similar to the Climate Change Act which helped the United Kingdom reduce greenhouse gas emissions 43% between 1990 and 2018.¹⁵¹⁶ This Act would require policy-makers to set five year carbon budgets and impact reports and establish an expert climate advisory committee to monitor, report, and advise Parliament on emissions reduction targets, and audit progress, on a 5-yearly basis.

2. Connect

Given the degree of quick-moving innovation at the city level on the climate change front, create a Ministry of Municipalities to facilitate coordination between the federal and the municipal levels of government.

3. Prepare

Prepare for the change that is coming (adaptation sprint)

- Fund health-focused adaptation plans for every community that commit to expanding urban green space: goal 100% completion by 2025.
- Fund community-centered agriculture plans: goal 100% completion by 2025.

¹⁵ "Analysis: Why the UK's CO2 emissions have fallen 38% since" 4 Feb. 2019, carbonbrief.org. Accessed 12 Aug. 2020.

¹⁶ "What is the 2008 Climate Change Act? - Grantham Research" 30 Apr. 2020, lse.ac.uk. Accessed 12 Aug. 2020.

4. Prevent

Prevent the change we won't be able to withstand (mitigation sprint)

- By end 2020; Submit greenhouse gas reduction goals for 2030 to the Paris Climate Agreement that are sufficient to protect the health of a child born today,¹⁷ and that prioritize greenhouse gas reduction measures with immediate co-benefits to health in terms of decreased air pollution, increased activity levels, and a fairer society.
- Establish zero-emissions building requirements for new and existing homes in the National building code and work with provinces and territories to adopt these.
- Incentivize energy efficiency, electrification, low-carbon building materials and green roofs.
- Prioritize the construction of East-West electrical grid connection to get us to 100% clean electricity ASAP.
- Implement a national zero-emission vehicle sales mandate that ratchets up gradually to 100% of light duty sales in 2040.

¹⁷ "The Paris agreement: charting a low-emissions path for a child...." [thelancet.com](https://www.thelancet.com) Accessed 8 Aug. 2020.



Mathias at age one

When this picture was taken, Mathias was one. In 2040, by the time he is 22, under all plausible emissions scenarios, and because Canada is warming at double the global rate, Canada will be 2°C warmer than it was at a baseline established from 1986-2005.¹⁸ That means that regardless of our current emissions, we need to revamp our agriculture system to ensure a stable local food supply for him, plant more trees in our city centers so he has relief from coming heat waves, and install good ventilation systems in our hospitals so we can make sure Matias' own babies can be delivered into a place with clean air even during wildfire season. And, in order to get us off the high-emissions pathway we're on, which would see Canada 6.3°C warmer by 2080,¹⁹ when he is 63, we need to emergently decrease our greenhouse gas emissions. Because no matter how hard we try to adapt, we're not sure our ecological foundation will be stable enough to support a good life for him at that level of warming.

Often, the conversation in Canada has been polarized around climate change, but the reality is that we all care tremendously about children. Mathias, in fact, lived in Fort MacMurray, and was evacuated out emergently past flames during the wildfires. His parents, newly-aware of the risks of climate change and employed in the oilpatch, spent a year and a half looking for work in a low-carbon sector before they were able to find it. They eventually did locate an on-ramp to work that allows them to put food on the table in a way that is aligned with a thriving future for Mathias. Let's build more on-ramps. So we can create a healthy future for kids of all backgrounds, across Canada, and the globe.

¹⁸ "About This Report - Canada's Changing Climate Report." <https://changingclimate.ca/CCCR2019/>. Accessed 11 Aug. 2020.

¹⁹ "About This Report - Canada's Changing Climate Report." <https://changingclimate.ca/CCCR2019/>. Accessed 11 Aug. 2020.

This world is our nest, our home. We need it to be stable, to nurture our society, our economy, our logistical supply chains, our healthcare systems, and ourselves. Where I live, in Canada's subarctic, we're already 2.5°C warmer than when an 80 year old Elder was born. North of here, in Inuvik, temperatures are 3°C warmer. As ice and permafrost soften, the ecological foundation of society is quite literally melting away. We are at the forefront of these changes: let these impacts spur us to shore up our nest against further destabilization. Two sprints of work must begin immediately to strengthen it: we need to **prepare** it for the climate-related change we can't now avoid, and **prevent** the change we won't be able to weather safely. The coronavirus pandemic, driven as it is by a virus that jumped from animals to humans, is both the biggest wake-up call we've ever had that for healthy people and a healthy economy we need to pay deep attention to our interface with the natural world, and the best evidence that by working together we can mount an effective response to a planetary crisis. A *Nature Climate Change* report estimates that global greenhouse gas emissions decreased by 17% in the first few months of 2020²⁰ as compared with the previous year, with just under half of this from reductions in surface transport.

A vibrant world is possible if we use this moment of crisis to choose a new path. Imagine waking up in 2050 to clean air and quiet streets powered by clean energy, in equitable communities with restorative urban green spaces, tasty local food, and net zero houses with green roofs, in an economy that is regenerative by design. Though there are still more wildfires and floods, as a result of greenhouse gases emitted before 2020²—we rebuilt in anticipation of increasing impacts and can still live comfortably. We've hit our net zero target on schedule, worked with other countries to support them to do likewise, have headed off temperature rises that could have led to malnutrition emergencies, conflict, supply-chain dysfunction, and risks to civilizational stability later in the century.²¹ The analysis put together as part of the 25-point Healthy Recovery plan I co-authored with the Canadian Association of Physicians for the Environment showed that through air pollution reductions alone, we can save 112,000 lives between 2030 and 2050, and created 1.3 million additional jobs in clean energy if we hit our net-zero target in a manner that prioritizes health.³

In this future you can look down at children and be confident that they have the ability to thrive

Imagine that we got there as a
result of the courageous
decisions we made during the
pandemic of 2020.

²⁰ "Temporary reduction in daily global CO₂ emissions during" 19 May. 2020, [nature.com/articles/s41558-020-0797-x](https://www.nature.com/articles/s41558-020-0797-x). Accessed 8 Aug. 2020.

²¹ "The 2019 report of The Lancet Countdown on health and" 13 Nov. 2019, [thelancet.com](https://www.thelancet.com). Accessed 8 Aug. 2020.

CLIMATE CHANGES HEALTH IN CANADA

Climate change is the biggest global health threat of the 21st century.

— The Lancet¹

IMPACTS ON AVAILABILITY OF TRADITIONAL FOODS² AND MENTAL HEALTH³ IN THE NORTH
Due to arctic warming (3x Global Rate)⁴.



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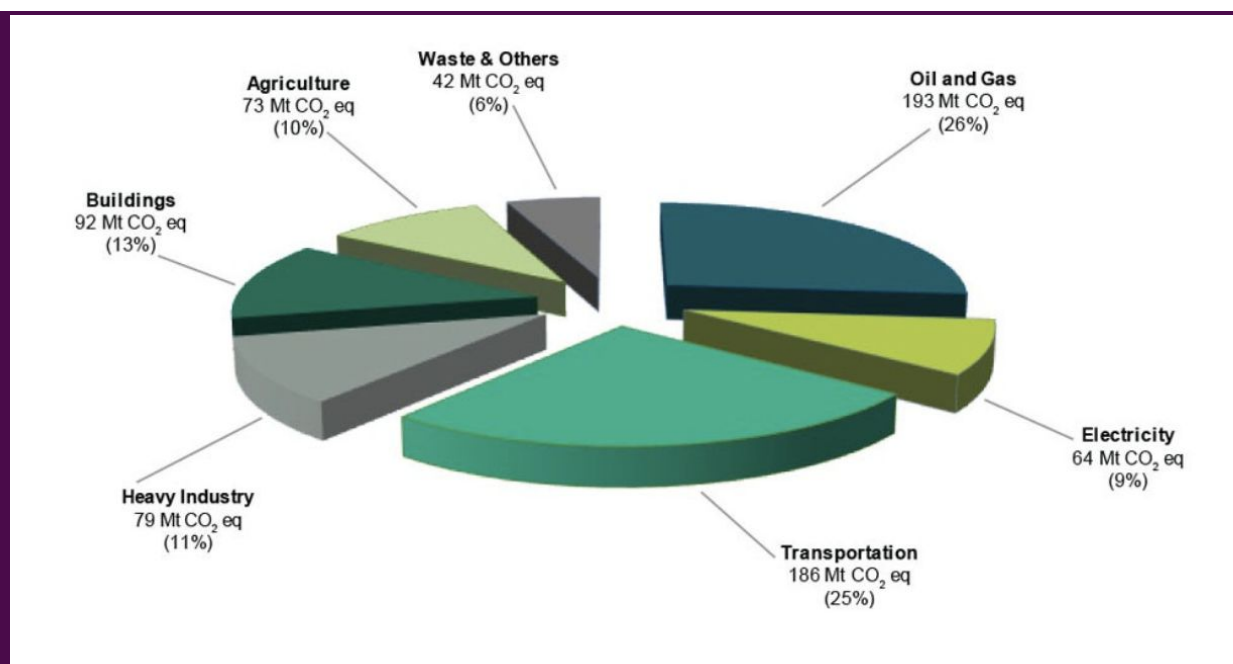
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1-Costello, The Lancet, 2009; 2-Rosol R, JCH, 2016; 3-Gunsolo A, Ellis N, Nature CC 2018; 4-Canada's Changing Climate 2019; 5-Yao J et al, 2016; 6-Hampshire, G, CBC 2016; 7-Kirchmeier-Young M 2017; 8-BC Int Health 2017; 9-Kirchmeier-Young M et al, Am Geo Un, 2018; 10-Alberta Health 2016; 11-Teufel B et al 2017; 12-CBC Alberta Flood 2013; 13-United Nurses of Alberta 2013; 14-Yoon A, et al, Int J Env Res P H, 2015; 15-Smoyer-Tomic K, et al, Ecohealth 2004; 16-Agriculture and Agri-Food Canada, 2015; 17-Cryderman K, 2018; 18-Ziska LH, The Lancet PH 2019; 19-Nelder MP, 2018; 20-Howard, C et al. The Lancet Countdown Policy Brief for Canada 2018; 21-Montreal PH, 2019; 22-Vogel MM et al, Am Geo Union, 2019; 23-Fenech, A, 2014; 24-Kelleys, C, et al, 2015

From the Lancet Countdown on Health and Climate Change Policy Brief for Canada, 2019, which I led.

Getting to Net-Zero by 2050: Framework

In 2018, Canadian emissions were 729 Mt CO₂eq, 126 Mt CO₂ eq, or 20.9% higher than they were in 1990.²² In contrast, the United Kingdom reduced its greenhouse gas emissions by 43% over the same period.²³ A critical difference between the two countries is the framework within which each country's climate-mitigation efforts are being made. Whereas Canada's plan swings back and forth depending on the government in power, providing security for neither citizens nor investors, the UK passed a Climate Change Act over ten years ago. As a result, policymakers legislate carbon budgets at five year intervals, and their progress towards these targets is monitored by an independent scientific committee which continuously audits government policies and advises on the least-cost, most-effective pathways to achieve the targets. The resulting certainty and long time horizons provide the investment stability needed to see change achieved.²⁴



Breakdown of Canada's emissions by economic sector (2018)

Canada's emissions *increased* in 2018 after hovering between 700-720 MtCOeq for several years.²⁵

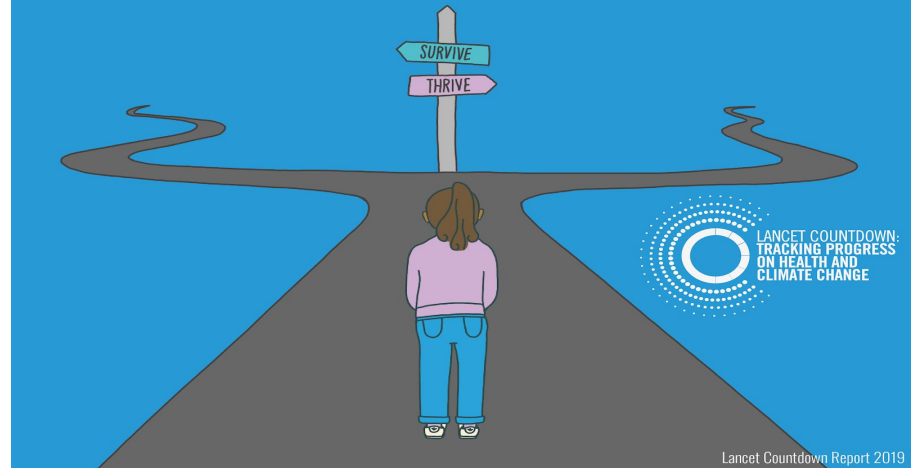
²² "Greenhouse gas emissions - Canada.ca." 15 Apr. 2020, canada.ca. Accessed 12 Aug. 2020.

²³ "2018 UK greenhouse gas emissions: summary." assets.publishing.service.gov.uk. Accessed 12 Aug. 2020.

²⁴ "Committee on Climate Change." www.theccc.org.uk/. Accessed 12 Aug. 2020.

²⁵ "Greenhouse gas sources and sinks: executive summary 2020" 22 Jun. 2020, canada.ca. Accessed 11 Aug. 2020.

Every child born today will be affected by climate change. How we respond will determine the world we live in tomorrow and will shape the health of children across the globe, at every stage of their lives.



Lancet Countdown on Health and Climate Change, 2019

As described in the 2019 Lancet Countdown on Health and Climate Change, we are currently standing at the junction of two paths

SURVIVE-“the life of every child born today will be profoundly affected by climate change, with populations around the world increasingly facing extremes of weather, food and water insecurity, changing patterns of infectious disease, and a less certain future. Without accelerated intervention, this new era will come to define the health of people at every stage of their lives.”

THRIVE- “A second path – which limits the global average temperature rise to “well below 2°C” – is possible, and would transform the health of a child born today for the better, throughout their lives. Placing health at the centre of the coming transition will yield enormous dividends for the public and the economy, with cleaner air, safer cities, and healthier diets.”²⁶

The plan outlined in this platform and in the CAPE Healthy Recovery Report helps us get onto the second path. Given the 26% of Canada’s greenhouse gas emissions that are due to oil and gas, it must be acknowledged that further expansion of fossil fuel extraction is not compatible with a healthy response to climate change. We should anticipate that existing technological innovation and capital flight due to our geographically far-flung and high-carbon deposits mean that as we stop subsidizing the industry, change will occur rapidly.^{27,28,29} We need to

²⁶ “The 2019 report of The Lancet Countdown on health and” [thelancet.com](https://www.thelancet.com). Accessed 8 Aug. 2020.

²⁷ “Macroeconomic impact of stranded fossil fuel assets | Nature” 4 Jun. 2018, [nature.com](https://www.nature.com). Accessed 12 Aug. 2020.

²⁸ “Flight of foreign capital means more challenging times are” 30 Mar. 2017, [financialpost.com](https://www.financialpost.com). Accessed 12 Aug. 2020.

²⁹ “Citigroup latest major bank to end Arctic oil investment - CBC.ca.” 23 Apr. 2020, [cbc.ca](https://www.cbc.ca). Accessed 12 Aug. 2020.

clean up orphan wells and tailings ponds now--and focus on supporting workers through a transition to a low-carbon economy.

“Multisolving” is taking an approach where we protect the climate with measures that also make life better now, improving health, and saving money.³⁰ **Initiatives with co-benefits for health offer some of the most striking opportunities to solve multiple problems at once.** Coal phase-out, electrifying transport, and carbon pricing all save lives through decreased air pollution.^{31,32} People who cycle and walk to work are less likely to die prematurely or get sick than people who commute by car.³³ Empowering women via support for education, as well as enhancing access to the voluntary family planning tools that they tell us that they want, reduces maternal and child mortality, evens out gender-related power imbalances, and also reduces the overall carbon footprint of humanity.³⁴ A plant-rich diet is good for people and planet,³⁵ and may help with antimicrobial stewardship.³⁶ In many cases, when we take all the benefits into account, these measures save us money. It is also necessary to increase study into the local health impacts of resource extraction, which tend to disproportionately be sited near Indigenous and racialized communities,³⁷ and where many negative externalities of intense fossil fuel development remain uncounted.³⁸ A wellbeing-oriented budget will help us connect the dots between these initiatives, so that siloed budgeting no longer stops us from spending money on clean energy or electrifying transport to save lives and healthcare costs--or holding polluters accountable for the ill-health they are responsible for.



My daughters, Vivi and Elodie, when they were a bit littler.

³⁰ "The Power of Multisolving for People and Climate ... - YouTube." 25 Jan. 2019, [youtube.com](https://www.youtube.com/watch?v=...) Accessed 8 Aug. 2020.

³¹ "Lancet Countdown 2018 Report:." [lancetcountdown.org](https://www.lancetcountdown.org/) Accessed 8 Aug. 2020.

³² "The 2019 report of The Lancet Countdown on health and" 13 Nov. 2019, [thelancet.com](https://www.thelancet.com/). Accessed 8 Aug. 2020.

³³ "Walking or cycling to work associated with reduced risk of" 19 May. 2020, [sciencedaily.com](https://www.sciencedaily.com/). Accessed 8 Aug. 2020.

³⁴ "Planetary Health - Island Press." islandpress.org/books/planetary-health/. Accessed 8 Aug. 2020.

³⁵ "The EAT-Lancet Commission on Food, Planet, Health - EAT" eatforum.org/eat-lancet-commission/. Accessed 8 Aug. 2020.

³⁶ "Restricting the use of antibiotics in food ... - The Lancet." 6 Nov. 2017, [thelancet.com](https://www.thelancet.com/). Accessed 8 Aug. 2020.

³⁷ "There's Something In The Water – Fernwood Publishing." [fernwoodpublishing.ca](https://www.fernwoodpublishing.ca/). Accessed 12 Aug. 2020.

³⁸ "170 doctors say government should reject Teck mine over" 23 Feb. 2020, [cbc.ca](https://www.cbc.ca/). Accessed 12 Aug. 2020.

Now that I've experienced a global planetary health crisis, I am willing to put everything I have into influencing society to avoid future crises. I am not alone. Forty million of the world's healthcare professionals, or ⅓ of the global total are represented in the organizations who have signed onto a letter I helped to initiate as part of the WHO-Civil Society Working Group on Climate Change and Health, calling on G20 leaders to target a green and healthy recovery.^{39,40}

The world's health professionals have worked hard to keep us safe through COVID-19, and are asking for a recovery that makes future crises less likely.

See Canada's MD Moms inspiring video here:



Canada's MD Moms for a Healthy Recovery, YouTube⁴¹

ACCOUNTABILITY. CONNECTION. PREPARATION. PREVENTION.

Let's get these plans implemented.
For us. For our kids. For the generations that follow.

³⁹ "Over 40 million health professionals urge G20 leaders to put" 25 May. 2020, climateandhealthalliance.org. Accessed 29 Jul. 2020.

⁴⁰ "Medical groups urge G20 to focus on climate change with" 25 May. 2020, ctvnews.ca. Accessed 29 Jul. 2020.

⁴¹ "Canadian Physician Mothers for a Healthy ... - YouTube." 21 Jul. 2020, youtube.com/watch?v=XPhbKfMc9HQ. Accessed 3 Aug. 2020.



3. DYNAMIC STABILITY

Overview

We must nurture dynamic stability within a rapidly-changing world.

AT HOME

Strengthen the social safety net to reduce financial stress. (see 7 and 8)

Provide tuition relief to help people retrain and reposition themselves to take advantage of new opportunities. (see 9)

GLOBALLY

- Increase funding and political support for international institutions that help us get along and take care of one another: for instance to the World Health Organization for pandemic preparedness and vaccine-related work.
- Increase support to the Green Climate Fund to facilitate adaptation and mitigation in lower-and middle-income countries.
- Suspend the Safe Third Country Agreement between Canada and the United States, in recognition of the fact that the US is no longer a safe country for migrants.
- Recommit to defending human rights in all contexts, and to working cooperatively to realize the United Nations Sustainability goals.
- Sign the United Nations Treaty on the Prevention of Nuclear Weapons.
- Ensure that the actions we take in Canada do not have harmful side-effects elsewhere:
 - Decarbonize without offshoring our emissions.
 - Trade with honour: ensure the products we consume did not put others at risk through inhumane working conditions, or create harmful local toxic impacts for others.
- Lead from strength: provide international leadership in key areas of strength based on achievement at home—for instance, with the Powering Past Coal Alliance.

The coronavirus crisis, in which a virus jumped from animals to humans on the other side of the world and brought the global economy to a standstill, has made very clear that we are all impacted by the intersection of human and natural systems everywhere on the planet. This means that in order to take care of each other in Canada, we must also work to ensure the health and wellbeing of all who share our planetary home.

The risk of further health and economic crises in the next few decades is high. As the World Economic Forum indicated in its 2020 Global Risks Report⁴²--the majority of those anticipated, similar to the coronavirus crisis, will be related to the degradation of our planetary ecosystem. Humanitarian organizations such as *Médecins Sans Frontières* (Doctors Without Borders) are increasingly concerned about the impact of climate change on malnutrition emergencies, population displacement, infectious disease, and conflict.⁴³ In anticipation of further warming of approximately 2°C above the 1986-2005 baseline in Canada by mid-century,⁴⁴ the massive challenge of keeping global warming to less than 1.5°C globally,⁴⁵ as well as rapid technological progress in renewable energy and artificial intelligence, continuing change must be anticipated.

In other words, we're packing for a back-country hike--not a walk in the park. Just as with any journey into challenging territory, preparation, communication, anticipation of worst-case scenarios, and elements of resilience will be key. We need to bring extra meals and duct tape, and make sure we have our epi-pens ready in case either we, or anyone else, gets an unexpected sting.

Consequently, the greatest security can be found in a dynamic global stability built on good relationships, well-supported and functional international institutions and governance, and agile, evidence-informed response and cooperation.

Key Elements of this Include

Increase funding and political support to the World Health Organization:

With the United States having signalled their intention to withdraw from the World Health Organization, other countries must help compensate..⁴⁶

Increase contributions to the Green Climate Fund

Given Canada's historical greenhouse gas emissions, the fact that countries in the Global South are more highly-impacted already by climate change than we are, and the practical fact that in some cases a given level of greenhouse gas emissions may be cheaper to achieve in a low-or-middle-income country, Canada must view a substantial portion of its contributions to protecting our common nest as the work it supports elsewhere.⁴⁷

Sign the United Nations Treaty on the Prohibition of Nuclear Weapons.

In a world of increasing climate-related instability we must rule out worst-case scenarios. One of these is increasing conflict leading to the catastrophic use of nuclear weapons. So far, Canada is on the wrong side of

⁴² "The Global Risks Report 2020 | World Economic Forum." 15 Jan. 2020. [weforum.org/reports/the-global-risks-report-2020](https://www.weforum.org/reports/the-global-risks-report-2020). Accessed 8 Aug. 2020.

⁴³ "(PDF) Climate Change and Health: an urgent new frontier for" 1 Dec. 2018, [researchgate.net](https://www.researchgate.net). Accessed 8 Aug. 2020.

⁴⁴ "About This Report - Canada's Changing Climate Report." changingclimate.ca/CCCR2019/. Accessed 8 Aug. 2020.

⁴⁵ "Summary for Policymakers — Global Warming of 1.5 °C - IPCC." [ipcc.ch/sr15/chapter/spm/](https://www.ipcc.ch/sr15/chapter/spm/). Accessed 8 Aug. 2020.

⁴⁶ "United States begins withdrawal from World Health" 7 Jul. 2020, [washingtonpost.com](https://www.washingtonpost.com). Accessed 8 Aug. 2020.

⁴⁷ "The Paris agreement: charting a low-emissions path for a child" 4 Jan. 2020, [thelancet.com](https://www.thelancet.com). Accessed 8 Aug. 2020.

history. On July 7, 2017, a majority of the world's nations adopted the United Nations Treaty on the Prohibition of Nuclear Weapons, following a decade of advocacy by the Nobel Peace-Prize Winning International Campaign to Abolish Nuclear Weapons (ICAN). The treaty will enter into legal force once 50 nations have ratified it.⁴⁸ Canada did not participate in the negotiations of the Treaty on the Prevention of Nuclear Weapons and has not signed it. A "non-paper" sent to NATO members by the United States strongly encouraged them to vote against the UN General Assembly resolution that established the mandate for states to negotiate a legally binding instrument to prohibit nuclear weapons.⁴⁹ Canada must adopt a position on nuclear weapons that is consistent with best-efforts to promote planetary survival, and that includes signing the treaty on the Prohibition of Nuclear Weapons.

Suspend the Safe Third Country Agreement with the United States

The Safe Third Country Agreement (STCA) operates by deeming those who arrive at a Canada land Port of Entry (POE) from the US ineligible to make a refugee claim in Canada, with the rationale being that the US is a safe country for refugees and that they should be able to claim refugee status there. Canada's Immigration and Refugee Protection Act (IRPA) requires the continual review of all countries designated as safe third countries, based on criteria including its human rights record.⁵⁰ The Minister of Citizenship and Immigration is responsible for this. The Canadian government website currently states, "The United States meets a high standard with respect to the protection of human rights."⁵¹ On July 22nd, the Federal Court of Canada ruled on a case where applicants sought refugee protection in Canada fearing persecution in their home country, but were ineligible because they arrived by way of the US. They argued that the Canadian government failed in its duty to review the ongoing designation of the US as a safe third country and that the legislation implementing the STCA is contrary to sections of the Canadian Charter of Rights and Freedoms.⁵² The court ruled that the agreement does violate the section of the Charter guaranteeing "the right to life, liberty, and security of the person," and gave the government six months to respond.⁵³ Given care of migrant children at the US-Mexico border,⁵⁴ and other allegations of human rights abuses, Canada should end the agreement immediately.

Ensure that actions taken in Canada do not have harmful effects elsewhere.

Current international greenhouse gas accounting structures, in which a country is held accountable for greenhouse gases burned in its country, but not contained in its exports or imports, reduce the ease of assessing a country's overall greenhouse gas footprint. Similar difficulties exist for water, and non-renewable materials. The working conditions associated with low-cost imports can similarly represent an "out of sight, out of mind" risk to Canada living its values with regards to a commitment to human rights and a living wage. Wherever possible, Canada should move towards full-cost systems of accounting which take our overall impact into account, and which encourage best practices both within and outside our borders.

⁴⁸ "Full text of the treaty - ICAN." [icanw.org/full_text_of_the_treaty](https://www.icanw.org/full_text_of_the_treaty). Accessed 8 Aug. 2020.

⁴⁹ "Canada - ICAN." [icanw.org/canada](https://www.icanw.org/canada). Accessed 8 Aug. 2020.

⁵⁰ "Canada-U.S. Safe Third Country Agreement - Canada.ca." 23 Jul. 2020, [canada.ca](https://www.canada.ca). Accessed 8 Aug. 2020.

⁵¹ "Canada-U.S. Safe Third Country Agreement - Canada.ca." 23 Jul. 2020, [canada.ca](https://www.canada.ca). Accessed 8 Aug. 2020.

⁵² "Canada-U.S. Safe Third Country Agreement - Canada.ca." 23 Jul. 2020, [canada.ca](https://www.canada.ca). Accessed 8 Aug. 2020.

⁵³ "Canada's asylum agreement with the US infringes ... - CBC.ca." 22 Jul. 2020, [cbc.ca](https://www.cbc.ca). Accessed 8 Aug. 2020.

⁵⁴ "AAP calls for urgent changes in care of migrant children" 12 Jul. 2019, aappublications.org. Accessed 8 Aug. 2020.

Lead from strength

Canada co-founded the Powering Past Coal Alliance with the UK, an effort made possible by its own successful efforts with regards to coal phase-out.⁵⁵ As part of this, it has also done pioneering work on the Just Transition of communities from high-carbon economies to lower-carbon economies,⁵⁶ which has allowed it to participate with confidence in these discussions internationally. Interventions such as this, based on real achievement at home, allow us to lead from an authentic place of strength that is most likely to enable us to leverage Canadian achievement and facilitate the scale and spread of good practices.

Picture yourself in a canoe going through rapids: you need a clear sense of your path and your risk tolerance, good equipment, skilled paddlers, excellent communication, and enough trust to make decisions quickly. There's no stopping the canoe, no eddy in sight.

Stability depends not on staying in one place, but on the ability to respond effectively to change.

In 2020—we're all in the same canoe.

We need to put on our life jackets, lean in, paddle hard, and stay focused on charting a healthy course.



⁵⁵ "Powering Past Coal Alliance." poweringpastcoal.org/. Accessed 8 Aug. 2020.

⁵⁶ "Just Transition | Powering Past Coal Alliance." poweringpastcoal.org/insights/just-transition. Accessed 8 Aug. 2020.

SHIFT POWER

To Recover *better* means
bridging the divides;
we need to power up

From increased COVID-19 rates in lower-income and black neighbourhoods,⁵⁷ to episodes of police-perpetrated violence against Indigenous people,^{59,60} to gendered impacts of virtual work and home-schooling,⁶² COVID-19 has revealed and worsened systemic biases which reduce the ability of people across the population spectrum to succeed. It is time to shift power, and shift our money to countering systemic racism and investing in people so they can thrive.

⁵⁷ "Black neighbourhoods in Toronto are hit hardest by COVID-19" 2 Jun. 2020, globalnews.ca/news/7015522/black-neighbourhoods-toronto-coronavirus-racism/. Accessed 30 Jul. 2020.

⁵⁸ "COVID-19 disproportionately impacting Black communities" 9 Jul. 2020, toronto.citynews.ca/2020/07/09/race-data-covid-toronto/. Accessed 30 Jul. 2020.

⁵⁹ "RCMP defence of Chief Allan Adam's arrest shows 'pattern of'" 14 Jun. 2020, globalnews.ca/news/7060131/rcmp-allan-adam-arrest/. Accessed 30 Jul. 2020.

⁶⁰ "Video of RCMP hitting Inuk man with truck shows police" 5 Jun. 2020, cbc.ca. Accessed 30 Jul. 2020.

⁶¹ "Mother of Indigenous woman killed by police calls for wellness" 18 Jun. 2020, timescolonist.com. Accessed 30 Jul. 2020.

⁶² "Women 'put careers on hold' to home school during UK Covid" 30 Jul. 2020, theguardian.com. Accessed 30 Jul. 2020.



4. HONOUR INDIGENOUS GOVERNANCE

Overview

To improve planetary health, power structures must be realigned.

Honour Canada's Commitments

- Accelerate the implementation of the Calls to Action of the Truth and Reconciliation Commission.
- Pass legislation ensuring that Canadian laws are in harmony with our endorsement of the United Nations Declaration on the Rights of Indigenous Peoples.

Enhance the Justice of Systems

- Accelerate mandatory cultural safety training within the Royal Canadian Mounted Police.
- Redistribute money from current prison-based systems to restorative justice and land-based healing initiatives.
- Appoint Indigenous judges at all levels in the court system.

Planetary Health, which has been defined as “as the interdependent vitality of all natural and anthropogenic ecosystems (social, political and otherwise),”⁶³ owes much to Indigenous thought traditions. Indigenous approaches acknowledge the complexity of systems, with international assessments of lands stewarded by Indigenous peoples finding that they have higher levels of biodiversity than conservation areas.⁶⁴

At this time of crisis, Canada is fortunate to have Indigenous planetary stewards in our midst, to help provide direction with their knowledge, and to fortify our collective commitment to a planet on which future generations can thrive with their resilience, and courage. A country in which Indigenous Governance is honoured is not only more just--but more well.

This change is overdue. Current governance systems and past colonial harms have led to pervasive health disparities between Indigenous and nonindigenous people, due to “the socioeconomic, environmental, and political contexts of their lives, a context inextricable from past and contemporary colonialism.”⁶⁵

⁶³ "Challenges | Free Full-Text | The Canmore Declaration ... - MDPI." [mdpi.com/2078-1547/9/2/31](https://doi.org/10.3390/2078-1547/9/2/31). Accessed 10 Aug. 2020.

⁶⁴ "Challenges | Free Full-Text | The Canmore Declaration ... - MDPI." [mdpi.com/2078-1547/9/2/31](https://doi.org/10.3390/2078-1547/9/2/31). Accessed 10 Aug. 2020.

⁶⁵ "Challenges | Free Full-Text | The Canmore Declaration ... - MDPI." [mdpi.com/2078-1547/9/2/31](https://doi.org/10.3390/2078-1547/9/2/31). Accessed 10 Aug. 2020.

After a twenty-plus year drafting process, the United Nations Declaration on the Rights of Indigenous Peoples⁶⁶ (UNDRIP) was adopted by the UN General Assembly in 2007, with a majority of states in favour.

“Recognizing that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment...”

Article 32

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.
2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.
3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.”

In 2015, the Truth and Reconciliation Commission of Canada issued the following calls to action:

“43. We call upon federal, provincial, territorial, and municipal governments to fully adopt and implement the United Nations Declaration on the Rights of Indigenous Peoples as the framework for reconciliation.

44. We call upon the Government of Canada to develop a national action plan, strategies, and other concrete measures to achieve the goals of the United Nations Declaration on the Rights of Indigenous Peoples.”⁶⁷

Canada officially removed its objector status to UNDRIP in 2016.⁶⁸ Soon after, NDP MP Romeo Saganash introduced Bill 262, “an act to ensure that the laws of Canada are in harmony with the United Nations Declaration on the Rights of Indigenous Peoples.”⁶⁹ It passed in the House of Commons in 2018, but was delayed in the Senate and did not become law.⁷⁰ To improve the health and wellbeing of every person in Canada, Canada must prioritize the alignment of its laws with UNDRIP.

B — Address systemic racism

The past several months have brought to light multiple unacceptable episodes of abuse of police power with regards to their treatment of Indigenous people.^{71, 72, 73}

⁶⁶ “United Nations Declaration on the Rights of Indigenous Peoples.” [un.org](https://www.un.org/). Accessed 7 Jul. 2020.

⁶⁷ “Calls to Action - TRC.ca.” [trc.ca/assets/pdf/Calls_to_Action_English2.pdf](https://www.trc.ca/assets/pdf/Calls_to_Action_English2.pdf). Accessed 7 Jul. 2020.

⁶⁸ 2 Aug. 2016, [cbc.ca/news/indigenous/canada-adopting-implementing-un-rights-declaration-1.3575272](https://www.cbc.ca/news/indigenous/canada-adopting-implementing-un-rights-declaration-1.3575272). Accessed 7 Jul. 2020.

⁶⁹ “LEGISinfo - Private Member's Bill C-262 (42-1).” [parl.ca](https://www.parl.ca). Accessed 7 Jul. 2020.

⁷⁰ ““Let us rise with more energy”: Saganash responds to Senate” 24 Jun. 2019, [aptnnews.ca/](https://www.aptnnews.ca/). Accessed 7 Jul. 2020.

⁷¹ “Video of Arrest of Indigenous Chief Shocks Canada - The New” 12 Jun. 2020, [nytimes.com](https://www.nytimes.com). Accessed 9 Jul. 2020.

⁷² “Video of RCMP hitting Inuk man with truck shows police” 5 Jun. 2020, [cbc.ca](https://www.cbc.ca). Accessed 9 Jul. 2020.

⁷³ “Killing of Indigenous woman raises questions about who” 6 Jun. 2020, [cbc.ca](https://www.cbc.ca). Accessed 9 Jul. 2020.

Indigenous people are overrepresented in the Canadian criminal justice system.

Despite constituting 4.1% of the Canadian adult population in 2016/2017, Indigenous adults accounted for 30% of provincial/territorial custody admissions, and 27% of federal custody admissions. Indigenous youth, who represent 8% of the Canadian youth population, account for 50% of custody admissions.⁷⁴

Restorative justice options should be established⁷⁵ with planning informed by a community-centered approach,⁷⁶ and paired with land-based healing practices.⁷⁷ Indigenous law programs should be supported within universities and Indigenous appointees should be named to all levels of courts.

⁷⁴ "Understanding the Overrepresentation of Indigenous People" 4 Nov. 2019, justice.gc.ca/socis-esjp/en/ind-aut/uo-cs. Accessed 30 Jul. 2020.

⁷⁵ "Honouring Promises - Assembly of First Nations." afn.ca. Accessed 30 Jul. 2020.

⁷⁶ "Restorative Justice | Justice Education Society." justiceeducation.ca. Accessed 30 Jul. 2020.

⁷⁷ "(PDF) Indigenous Land-based Healing Programs in Canada" 20 Jun. 2020, researchgate.net. Accessed 30 Jul. 2020.



5. POWER UP NEW LEADERS

Overview

A. Distribute Digital Power

Affordable broadband is a human right, a determinant of health, and an important portal of access to virtual work and decision making tables.

Plan

1. Develop a National Strategy on Broadband and Connectivity to:
 - a. Solve disparities between urban, rural, and Indigenous communities with particular attention to last-mile connectivity issues.
 - b. Consider the implications of Indigenous rights with regards to control of the electromagnetic spectrum over their territories.
 - c. Consider next-generation options and review the federal procurement contracts process for tech vendors.
2. Conduct a health impact assessment, which includes climate and environmental considerations, into the rollout of 5G across Canada.
3. Suspend data caps permanently.
4. Work with provinces and territories to ensure the focused provision of technology to assist with schooling and work for people of lower socioeconomic means who are less able to access public infrastructure and equipment as a result of the pandemic.

B. Power Parliament with Youth and Diverse Voices:

A decision-making body lacking in diversity is a group with blind spots. People of different descriptions and backgrounds trend towards different decisions: for example—across the political spectrum an increasing proportion of female decision makers is associated with decreased mortality rates and more pro-environmental and pro-social decisions.⁷⁸

Plan

1. Lower the voting age to 16.
2. Create a campaign school and mentorship program within the Green Party designed to lower barriers to participation and success for candidates experiencing systemic racism and other types of discrimination.
3. Work with provinces and territories to replicate the Northwest Territories' successful Campaign School for Women, with a broader mandate to enhance the political representation of all underrepresented groups at provincial, territorial, and national levels.
4. Prioritize electoral reform.

⁷⁸ "The effect of women in government on population health: An" 16 Aug. 2018, ncbi.nlm.nih.gov. Accessed 10 Aug. 2020.

"Broadband internet access is a super-determinant of health that plays an important role in healthcare and public health outcomes."⁷⁹

J Law Med Ethics

"increases in female politicians from left-wing, centre, and right-wing parties are all significantly associated with decreases in mortality rates."⁸⁰

SSM Popul Health

A. Distribute digital Power

"By vastly expanding the capacity of individuals to enjoy their right to freedom of opinion and expression, which is an "enabler" of other human rights, the Internet boosts economic, social and political development, and contributes to the progress of humankind as a whole."⁸¹

2011 UN Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, Frank La Rue.

Affordable Broadband Access is a Super-determinant of health, and an Economic Catalyst

Affordable broadband is a human right and a super-determinant of health due to its impact on other social determinants of health, including education and employment opportunities, and its role in assisting access to virtual care.⁸²

In allowing the privatization, commodification, and near-monopoly of the electromagnetic spectral commons, Canada has ended up with some of the highest rates in the world.⁸³ Despite the CRTC having declared broadband internet a basic telecommunications service, it calculated that while 86% of households in Canada have access to a broadband internet connection that they consider sufficient to engage in the modern digital economy (50 Mbps download and 10 Mbps upload) in rural areas, that number is only 41%, and in Indigenous households only 24%.^{84,85} With an increasing proportion of economic activity, education, social connectivity, and healthcare provision having moved into the virtual world over the past several months, the coronavirus pandemic has vastly increased the importance of access to rapid, affordable internet. Unfortunately, it has also dramatically worsened the inequity of access, with the existing digital divide between rural and urban households having widened,⁸⁶ and people of lower socioeconomic status facing barriers to the use of equipment in public facilities.

This moment has laid bare the lack of a coordinated strategy in Canada to treat access to the internet as a determinant of health and a human right instead of a commodity, and to allocate an invisible commons—the electromagnetic spectrum—in a manner which benefits all. Particular resources should be allocated to supporting

⁷⁹ "Broadband Access as a Public Health Issue: The ... - PubMed." pubmed.ncbi.nlm.nih.gov/31298126/. Accessed 10 Aug. 2020.

⁸⁰ "The effect of women in government on population health: An" 16 Aug. 2018, ncbi.nlm.nih.gov. Accessed 7 Aug. 2020.

⁸¹ "Frank La Rue - UN HRC - OHCHR." 16 May. 2011, www2.ohchr.org. Accessed 18 Jul. 2020.

⁸² "Broadband Access as a Public Health Issue: The Role of Law" 12 Jul. 2019, journals.sagepub.com. Accessed 11 Aug. 2020.

⁸³ "Prices of the internet around the world - Bargain Hunting - Picodi." 10 Dec. 2019, picodi.com. Accessed 8 Aug. 2020.

⁸⁴ "High-Speed Access for All: Canada's Connectivity Strategy PDF." ic.gc.ca. Accessed 8 Aug. 2020.

⁸⁵ "Broadband Fund: Closing the Digital Divide in Canada | CRTC." 1 Jun. 2020, crtc.gc.ca/eng/internet/internet.htm. Accessed 30 Jul. 2020.

⁸⁶ "New internet performance data shows the staggering scale of" 8 May. 2020, globeandmail.com. Accessed 8 Aug. 2020.

the efforts of Indigenous communities with regards to establishing access for their communities,⁸⁷⁸⁸ and to attend to the implications of treaty rights for the allocation of spectrum.

Continue to Monitor Evidence on the Effects of Radio Frequency Radiation and Where Possible, Create Fixed Connections

The World Health Organization is currently conducting a health risk assessment covering the entire radiofrequency range, including 5G, to be published by 2022.⁸⁹ Health Canada states that current Canadian regulations are adequate,⁹⁰ however recent peer-reviewed publications question the safety of levels accepted by these guidelines, particularly for children.⁹¹⁹²⁹³

5G is the next generation of wireless technology, with the potential to allow for more data and connectivity and also the exposure to higher levels of radio frequency radiation. It will operate in both the lower frequency spectrum (below 6 GHz) as well as at higher frequencies (above 6 GHz).

A health impact assessment should be carried out with regards to the health and environmental considerations of the rollout of 5G across Canada. It is reasonable to target radiofrequency exposures that are “As Low as Reasonably Achievable,” including measures such as installing wired Internet networks when possible and cable or wired connections in building systems until the results of the WHO health risk assessment are known and the research base expands.⁹⁴

B. Power Parliament with Youth and Diverse Voices

People of different backgrounds bring different pieces of information and experience to the table, and, as a result, make different decisions. Disparities in income, connections and societal expectations, as well as systemic racism, can pose challenges to acceding to positions of power. In order to enhance the diversity of people around the table, we need to recognize those disparities and create initiatives to overcome them.

A study done of voting behaviour in the sixth and seventh European parliament showed that though male and female legislators expressed similar concern for the environment, women were significantly more likely to support environmental legislation than men—even taking political ideology and nationality into account.⁹⁵ A study in Norway found connections between female politicians and spending preferences tied to health-promoting issues such as healthcare, social services, and education,⁹⁶ and several studies have found correlational results indicating that having more women in government is associated with lower rates of infant mortality.⁹⁷⁹⁸ Similarly, a study that used cross-sectional data from Canadian provinces from 1976 to 2009 found that increases in female politicians from left-wing, centre, and right-wing parties are all associated with decreases in mortality rates.⁹⁹

⁸⁷ "Indigenous Broadband - Connecting the North - Todayville.com." 28 May. 2020, todayville.com. Accessed 8 Aug. 2020.

⁸⁸ "First Nations Technology Council." 9 Jul. 2019, technologycouncil.ca/. Accessed 8 Aug. 2020.

⁸⁹ "5G mobile networks and health - World Health Organization." 27 Feb. 2020, who.int. Accessed 8 Aug. 2020.

⁹⁰ "Radiofrequency Energy and Safety - Spectrum management" 13 May. 2020, ic.gc.ca. Accessed 8 Aug. 2020.

⁹¹ "Absorption of wireless radiation in the child versus adult brain" sciencedirect.com. Accessed 12 Aug. 2020.

⁹² "Risks to Health and Well-Being From Radio ... - Frontiers." frontiersin.org. Accessed 8 Aug. 2020.

⁹³ "Building science and radiofrequency radiation: What makes" sciencedirect.com. Accessed 8 Aug. 2020.

⁹⁴ "Building science and radiofrequency radiation: What makes" sciencedirect.com. Accessed 8 Aug. 2020.

⁹⁵ "Do women make a difference? Analysing environmental" uni-salzburg.elsevierpure.com. Accessed 8 Jul. 2020.

⁹⁶ "Descriptive Representation, Policy Outcomes, and Municipal" jstor.org/stable/3088386. Accessed 8 Jul. 2020.

⁹⁷ "Income Inequality, the Psychosocial Environment, and Health" pubmed.ncbi.nlm.nih.gov/11476836/. Accessed 8 Jul. 2020.

⁹⁸ "Economic inequality, working-class power, social capital, and" ncbi.nlm.nih.gov/pubmed/12456119. Accessed 8 Jul. 2020.

⁹⁹ "The effect of women in government on population health: An" 16 Aug. 2018, ncbi.nlm.nih.gov. Accessed 8 Jul. 2020.

With regards to youth specifically, a strong argument exists that for reasons of intergenerational justice related to climate change they deserve to have a say sooner than previous generations did in terms of how this period of history is managed. Scotland and Austria, for instance, have already lowered their voting age to 16¹⁰⁰. Research suggests that they are avid voting participants, that the quality of their vote choices are similar to older voters and that when socialized into a culture of voting early on, they may age into more politically active older people than those who don't vote until they are older.^{101 102}

Campaign School

Campaigns cost money and candidates benefit from well-connected and deep-pocketed people in their networks. It is easy to see how systemic racism and discrimination poses additional barriers to successful campaigning and election for women, people of colour, immigrants, LGBTQI people, differently-abled people, and more. An initiative that has been successful in terms of increasing the number of women elected to political office is the Northwest Territories' campaign school for women.¹⁰³ Benefiting from funding from both the territory and the federal government, it successfully increased the number of female cabinet ministers and is credited as being important to the election of Canada's only current female premier. The Green Party can create such a campaign school as well as a mentorship system pairing less-privileged candidates with more-privileged sponsors in order to internally help people to overcome systemic discrimination. More broadly, it would be possible for the federal government to systematically fund and promote similar initiatives in each province and territory.

¹⁰⁰ "What does voting at 16 change? The case of Austria | Euronews." 11 Sep. 2018, euronews.com/2018/09/11/what-does-voting-at-16-change-the-case-of-austria. Accessed 12 Aug. 2020.

¹⁰¹ "Lowering the Voting Age - ACE Electoral Knowledge." aceproject.org. Accessed 8 Jul. 2020.

¹⁰² "a unicef canada submission for electoral reform: lowering the" 6 Oct. 2016, ourcommons.ca. Accessed 8 Jul. 2020.

¹⁰³ "Caroline Cochrane, Canada's only female premier, defies" 6 Mar. 2020, macleans.ca. Accessed 11 Aug. 2020.



6. EVIDENCE-BASED INFLUENCE

Overview

Evidence-oriented groups are being out-lobbied: between 2011 and 2018 the fossil fuel industry met with federal government officials five times as often as did nongovernmental organizations. We need to ensure evidence-based influence by:

Treating decisionmaker and staff time as the valuable public good that it is in interactions with lobbyists:

- i. Ensure a 1:1 Non-profit to profit visit ratio per worker.
- i. Ensure virtual visits (phone etc) are logged.
- ii. Ensure presentations and briefing notes are submitted and publicly available
- iii. Prohibit closed-door meetings with industry for development of key public health policies where a significant conflict of interest exists, including with regards to the Fossil Fuel Industry and cornerstone pieces of Climate Policy such as a Climate Accountability Act. ie-following the process used in developing the Canada Food Guide

Define a process for reporting on public engagement and policy impacts to all federally-administered research grants, with the expectation being that funds for research translation, education, high-quality public communications, and policy engagement are included in the vast majority of grant proposals.

COVID-19 has shown us that evidence-based public policy is possible when experts are given a well-defined role within government--and also that politics is the limiting factor in seeing evidence translated into action. Unfortunately, it is more the exception than the rule: currently, in spheres from fossil fuels to farming, industry has more resources and a better playbook to use to influence people in power than do actors supportive of evidence-based policy. That's not good. In order to have a healthy society we need to create policy that is best for people--not the policy that is best for industry.

Relationships matter. Influence matters. Access matters. It has been well-documented that when medical studies have been supported by pharmaceutical companies their findings are more likely to yield a positive result.¹⁰⁴ Similarly, physicians receiving free meals from pharmaceutical representatives are more likely to prescribe the medicine that has been promoted,¹⁰⁵ and have been shown to prescribe more as a result of even simple meetings.¹⁰⁶ What is most interesting is that in many cases physicians do not have the insight to know that their behaviour has been influenced.¹⁰⁷ Maybe it's because we're trusting? Maybe it's because we each think we're smarter than all the other doctors. Whatever the reason--we're wrong.

In the midst of a pandemic made worse by an infodemic, it is worth considering what information streams are entering the media, and reaching the ears of our decision-makers. In an ideal world, policy would be evidence-based, and oriented to maximize health and wellbeing for the most number of people possible. Unfortunately, academic "publish or perish" incentives are misaligned with the provision of digestible, policy-oriented, evidence-based information to the public and to policymakers. Non-governmental organizations, always at pains to locate adequate funds, are struggling amidst the economic turmoil of COVID. At this moment, industry has more resources and a better playbook to use to influence people in power than do people who are supportive of evidence-based policy. That's not good. In order to have a healthy society we need to create policy that is best for people--not the policy that is best for industry.

Cases of particular relevance to Canada's future as we simultaneously manage COVID-19, its economic crisis and the climate emergency, are with regards to the fossil fuel industry, and the agricultural industry.

Fossil Fuels

During the seven year period from January 4, 2011 to January 30, 2018, the fossil fuel industry recorded 11, 452 lobbying contacts with government officials, which was a rate five times higher than environmental non-governmental organizations. Nearly a quarter of total contacts by lobbyists over that period were via the Mining Association of Canada and the Canadian Association of Petroleum Producers (CAPP). Approximately one month into the pandemic, a memo to cabinet from the Canadian Association of Petroleum Producers was leaked. Thirteen pages long, it referenced two previous meetings with cabinet, and contained extensive tables listing laws and processes that they were recommending weakening in the name of "doing no harm" to the fossil fuel industry.¹⁰⁸ At this moment in the pandemic, the Energy Policy Tracker¹⁰⁹ estimates that since the beginning of the pandemic, Canada has committed at least \$16 billion to supporting fossil fuel energy, and only \$2.1 billion, or to supporting clean energy.

¹⁰⁴ "Outcome Reporting Among Drug Trials ... - NCBI - NIH." ncbi.nlm.nih.gov. Accessed 12 Aug. 2020.

¹⁰⁵ "Geriatrics | JAMA Internal Medicine - JAMA Network." 20 Jun. 2016, jamanetwork.com. Accessed 12 Aug. 2020.

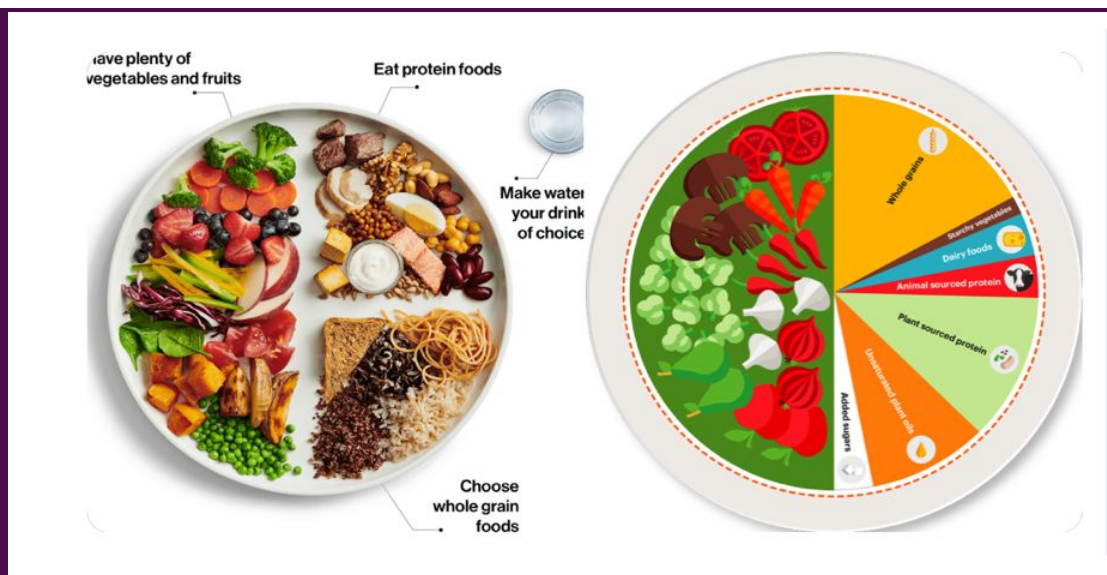
¹⁰⁶ "Geriatrics | JAMA Internal Medicine - JAMA Network." 20 Jun. 2016, jamanetwork.com. Accessed 12 Aug. 2020.

¹⁰⁷ "Why do doctors still think pharma doesn't influence them" 8 Apr. 2013, healthydebate.ca. Accessed 12 Aug. 2020.

¹⁰⁸ "We have the oil lobby's secret list of COVID demands – if" 17 Apr. 2020, environmentaldefence.ca/. Accessed 12 Aug. 2020.

¹⁰⁹ "Energy Policy Tracker - Track funds for energy in recovery" energypolicytracker.org/. Accessed 12 Aug. 2020.

How has this type of situation been successfully dealt with in the past?



The New Canada Food Guide,¹¹⁰ plate next to the EAT-Lancet Plate.¹¹¹

An instructive case where a key piece of Canadian public health policy was produced and found to be in line with international best-evidence, is seen with the Canada Food Guide, which has been widely praised by health groups.^{112,113} Notably, it was developed without meetings with food and beverage industry representatives in order to ensure that the development of dietary guidance took place free from conflict of interest.¹¹⁴ A similar process should be employed for other critical pieces of public health policy, including with regards to the fossil fuel industry and the development of a Climate Accountability Act.

¹¹⁰ "Canada's Food Guide." 13 Jan. 2020, food-guide.canada.ca/en/. Accessed 8 Aug. 2020.

¹¹¹ "The EAT-Lancet Commission on Food" eatforum.org/eat-lancet-commission/. Accessed 8 Aug. 2020.

¹¹² "Howard and Hancock: Food guide will be healthier for people" 21 Jan. 2019, ottawacitizen.com. Accessed 10 Aug. 2020.

¹¹³ "Health experts applaud Canada's new food guide, though" 22 Jan. 2019, globalnews.ca. Accessed 8 Aug. 2020.

¹¹⁴ "Revision process for Canada's food guide - Canada.ca." 25 Nov. 2019, canada.ca. Accessed 10 Aug. 2020.

SHIFT MONEY

Wellbeing stems from equitable investment in the 4 capitals— ecological, social, human, & financial.



7. FAIR SHARE

Overview

Reduce toxic inequality and get back to basics

Inequality is associated with worsened levels of trust, mental and physical health, women's empowerment, child health, and levels of criminality. We need to tax big corporations, wealth, pollution, and sugar, and shift those funds to build social and human capital by funding a universal basic income and subsidizing fruits and vegetables.

Plan

- Implement an annual net wealth tax on Canadian resident economic families equal to 1% of net wealth above 20 million, excluding wealth from lotteries.
- Implement a Financial Transaction Tax.
- Implement a 3% tax on large internet-based companies on online sales in Canada.
- Address the tax gap of corporations offshoring money.
- Collect GST/HST on online sales in Canada.
- Continue the planned increase in the revenue-neutral federal carbon tax.

Prevention is better than cure

- Implement an excise tax of 20% on all sugar-sweetened beverages sold in Canada, increasing by 10% year-on-year to reach 50% in year three, with all monies redirected to subsidize fruits and vegetables.
- Implement a Guaranteed Basic Income from October 2020 to October 2021 to ensure all Canadians 18-64 have income at least 75% of the Low-Income Measure, where the benefit is phased out by \$0.50 for every dollar of employment income, to be re-evaluated at the end of this period for potential continuation.

INVEST IN EACH OTHER

*"The big idea is that what matters in determining mortality and health in a society is less the overall wealth of that society and more how evenly wealth is distributed. The more equally wealth is distributed the better the health of that society."*¹¹⁵

British Medical Journal

*"part of the Stranded Fossil Fuel Assets would occur as a result of an already ongoing technological trajectory, irrespective of whether or not new climate policies are adopted; the loss would be amplified if new climate policies to reach the 2 °C target of the Paris Agreement are adopted and/or if low-cost producers (some OPEC countries) maintain their level of production ('sell out') despite declining demand; the magnitude of the loss from SFFA may amount to a discounted global wealth loss of US\$1–4 trillion; and there are clear distributional impacts, with winners (for example, net importers such as China or the EU) and losers (for example, Russia, the United States or Canada, which could see their fossil fuel industries nearly shut down)."*¹¹⁶

Nature Climate Change

Inequality is toxic. Climate Change is a crisis. Low-carbon disruption is inevitable.

An increase in inequality in high-income countries like Canada has been correlated with an increase in health and social problems including mental illness and drug use, as well as decreases in elements such as life expectancy, trust, and indicators of the status of women and child wellbeing.¹¹⁷ Meanwhile, COVID-19 has brought the consequences of inequality into sharp relief—Toronto Public Health showed COVID-19 has disproportionately affected low-income residents and recent immigrants, and public health officials in Ontario have reported that rates of infection and death are disproportionately higher in the province's most ethnically and culturally diverse neighbourhoods.¹¹⁸¹¹⁹ Perhaps most concerning, Médecins Sans Frontières, Doctors Without Borders, set up operations for the first time in Canada, its services needed to help care for people experiencing homelessness in Toronto.¹²⁰

People need help through a time of great transition.

To support people through the pandemic, the Canadian Emergency Response Benefit (CERB) has provided a flat taxable \$2,000 per month for up to 24 weeks,¹²¹ and the Canadian Emergency Wage Subsidy has allowed businesses

¹¹⁵ "Editor's choice | The BMJ." 20 Apr. 1996, [bmj.com/content/312/7037/0](https://www.bmj.com/content/312/7037/0). Accessed 8 Jul. 2020.

¹¹⁶ "Macroeconomic impact of stranded fossil fuel assets | Nature" 4 Jun. 2018, [nature.com/articles/s41558-018-0182-1](https://www.nature.com/articles/s41558-018-0182-1). Accessed 11 Aug. 2020.

¹¹⁷ "The Spirit Level | The Equality Trust." equalitytrust.org.uk/resources/the-spirit-level. Accessed 9 Jul. 2020.

¹¹⁸ "COVID-19 in Ontario – A Focus on Diversity - Public Health" publichealthontario.ca. Accessed 9 Jul. 2020.

¹¹⁹ "Lower income people, new immigrants at higher COVID-19" 12 May. 2020, [cbc.ca](https://www.cbc.ca). Accessed 9 Jul. 2020.

¹²⁰ "Medecins Sans Frontieres plans first Canada project as" 14 Apr. 2020, [reuters.com](https://www.reuters.com). Accessed 9 Jul. 2020.

¹²¹ "Canada Emergency Response Benefit (CERB) - Canada.ca." 20 Jul. 2020, canada.ca/en/services/benefits/ei/cerb-application.html. Accessed 30 Jul. 2020.

to keep employees on the payroll.¹²² The former runs out in October. Changes to Employment Insurance have recently been proposed as a way of ending CERB but continuing support. CEWS has been extended to December 2020.¹²³

These programs must be compared to the likely timeline of disruption: COVID-19 will change economic life to a greater or lesser degree for at least two years, assuming a vaccine is rapidly developed, rolled out at scale, and efficiently adopted. In that time, society and employment will continue to be in flux, much life will move into the virtual world, and families will be challenged by income and food-related insecurity. More broadly, the oil and gas industry will be strained by continuous low demand, and the realities of inevitable disruption: analysis published in *Nature Climate Change* showed that the current trajectory of adoption of low-carbon technologies will result in a significant proportion of fossil fuels left stranded underground regardless of whether new climate policies are put into place, and that if new climate policies are adopted to reach the 2°C Paris Agreement target, Canada could see its fossil fuel industry “nearly shut down.” The authors suggested reducing fossil fuel investments to decrease the risk of stranded assets.¹²⁴ We must be making continuous movement towards a more resilient low-carbon future where artificial intelligence-related job market disruptions are anticipated.

Pre-COVID19 we were talking about a Just Transition for workers in the oil and gas sector, which in 2018 was responsible for 5.6% of GDP and 170,000 jobs, or 1% of total employment, according to Natural Resources Canada.¹²⁵ Emerging from COVID19, we are talking about a Just Recovery for all, given the huge swath of people impacted. Indeed, over 150 Canadian organizations have endorsed 6 principles of a Just Recovery—which include putting people’s health first; strengthening the social safety net; prioritizing the needs of workers and communities; building resilience; building solidarity and equity across communities, generations, and borders; and upholding Indigenous rights.¹²⁶

As underlying fissures and systemic biases have been revealed, both here and abroad, people have taken to the streets to emphasize the need to reduce racism, particularly with regards to black and Indigenous people, to bring implicit biases to light, and to eliminate the structural biases which harm health, both through police action, and via broader structural violence.

Social Safety First

Unfortunately—we have new evidence that inequality is on the rise. In June 2020, the Office of the Parliamentary Budget Officer of Canada produced a new resource called the High-net-worth Family Database which allows for the analysis of Canadian families with wealth in the millions and billions of dollars. The wealth share of the top 1% of families is 12 percentage points higher than previous estimates, meaning that in 2016 they had 25.5% of a share of net wealth.¹²⁷ This evidence of increased levels of inequality in Canada is distressing—but is also reassuring in that it indicates that the problem is less one of scarcity, and one more of maldistribution.

For everyone’s health—we need to shift money to where it can do the most to promote wellbeing.

¹²² “Supporting Canadian Workers and Businesses ... - Canada.ca.” 17 Jul. 2020, canada.ca. Accessed 8 Aug. 2020.

¹²³ “Supporting Canadian Workers and Businesses ... - Canada.ca.” 17 Jul. 2020, canada.ca. Accessed 8 Aug. 2020.

¹²⁴ “Macroeconomic impact of stranded fossil fuel assets | Nature” 4 Jun. 2018, [nature.com/articles/s41558-018-0182-1](https://www.nature.com/articles/s41558-018-0182-1). Accessed 11 Aug. 2020.

¹²⁵ “Energy and the economy | Natural Resources Canada.” 21 Jul. 2020, nrcan.gc.ca. Accessed 8 Aug. 2020.

¹²⁶ “BREAKING – Just Recovery Principles Launched by” 25 May. 2020, climateactionnetwork.ca. Accessed 8 Aug. 2020.

¹²⁷ “estimating the top tail of the family wealth distribution in canada.” 17 Jun. 2020, pbo-dpb.gc.ca. Accessed 9 Jul. 2020.

Finances of a Pandemic

For reference, Canada's GDP in 2019 was 1,972,186 million dollars (in 2012 chained dollars at basic prices—recall GDP does not include unpaid work inside the home or volunteer work).¹²⁸ The fiscal snapshot provided by Finance Minister Bill Morneau on July 8th projected a deficit for 2020-21 of \$343.2 billion, as compared to the \$34.4 billion deficit forecast before the pandemic,¹²⁹ as a result of the \$212 billion in direct aid provided to individuals and businesses, and a decrease in government revenue from a projected \$341 billion in 2019-20 to \$268.8 billion in 2020-21, as a result of diminishment in elements such as personal income tax (\$170.9 billion to \$146.3 billion), corporate income tax (\$49.2 billion to \$38.3 billion), and GST revenue (\$38.8 billion to \$30.9 billion). Overall, the Canadian economy is projected to shrink by 6.8% this year, making this the worst economic contraction since the Great Depression,¹³⁰ and the federal debt-to-GDP ratio is expected to rise from 31% in 2019-2020 to 49% in 2020-21.¹³¹ The unemployment rate rose from 5.5% in January to 13.7% in May—the highest on record, and overall approximately 30% of the workforce was impacted by either job loss or by seeing their hours scaled back.¹³² On the upside, as compared to the 1990s, when interest rates were high, today's low interest rates mean that Canada's public debt charges are only 1% of GDP.¹³³

A poll at the end of May showed that $\frac{2}{3}$ of Canadians want to spend whatever is required to rebuild and stimulate the economy, even if it means running large deficits for the foreseeable future. Almost all Canadians, in the same poll, believe that improvements are needed in income support and employment insurance that everyone can access, in the availability of paid sick days and livable wages, and in the public health care and long-term care systems.¹³⁴ International response is aligned with these sentiments: *The Economist* reports that central banks internationally are aware of this as a unique moment which requires a large amount of spending, that in fact represents a "New Era in Macroeconomics."¹³⁵ As such, although efforts to ensure monies spent are of the most possible benefit to the population in terms of impact on health and wellbeing, which includes overall consideration for a healthy economy, deficits are to be expected as we respond and refocus efforts to reduce toxic inequality and invest in one another.

In considering our investments it is helpful to consider the four types of capital which underpin current and future wellbeing—natural capital, social capital, financial and physical capital, and human capital. A review of 231 economic experts from G20 countries identified five mid-COVID policies with high potential as both economic multipliers and climate fixers: clean physical infrastructure, building efficiency retrofits, investment in education and training, natural capital investment, and clean research and development.¹³⁶

To help each other through this unstable period and prevent repetitive planetary health crises we must keep the following in mind:

¹²⁸ "Gross domestic product (GDP) at basic prices, by industry" www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610043403. Accessed 9 Jul. 2020.

¹²⁹ "Highlights of Bill Morneau's 2020 fiscal 'snapshot' | CBC News." 8 Jul. 2020, cbc.ca. Accessed 9 Jul. 2020.

¹³⁰ "Highlights of Bill Morneau's 2020 fiscal 'snapshot' | CBC News." 8 Jul. 2020, cbc.ca. Accessed 9 Jul. 2020.

¹³¹ "Highlights of Bill Morneau's 2020 fiscal 'snapshot' | CBC News." 8 Jul. 2020, cbc.ca. Accessed 9 Jul. 2020.

¹³² "Economic and Fiscal Profile - Canada.ca." 8 Jul. 2020, canada.ca. Accessed 9 Jul. 2020.

¹³³ "Economic and Fiscal Snapshot 2020 – House Speech" 8 Jul. 2020, canada.ca. Accessed 9 Jul. 2020.

¹³⁴ "Canadians want a recovery that is ambitious ... - Abacus Data." 22 May. 2020, abacusdata.ca. Accessed 9 Jul. 2020.

¹³⁵ "Editor's Picks: July 27th 2020 - A new era of macroeconomics" 27 Jul. 2020, economist.com. Accessed 8 Aug. 2020.

¹³⁶ "Will COVID-19 fiscal recovery packages accelerate or retard" 4 May. 2020, smithschool.ox.ac.uk. Accessed 15 Jul. 2020.

We need to invest in one another, and we need to do it in a way that:

- keeps roofs over heads and food on the table now
- reduces unhealthy inequality
- catalyzes longer-term improvements in economic and financial health
- facilitates the low-carbon transition
- future-proofs employment by anticipating technological disruption by artificial intelligence and robotics
- takes advantage of the cost, morbidity, and mortality savings of preventing disease as opposed to curing it once it has developed
- takes into account generational shifts in our society including an aging population and a young population facing unprecedented challenges including huge housing costs, tuition-related debt, and COVID-related employment challenges

Plan

- Annual net wealth tax on Canadian resident economic families.
 - PBO estimate of annual net wealth tax on Canadian resident economic families equal to 1% of net wealth above 20 million, excluding wealth from lotteries: 5.6 billion in revenues in 2021, rising to \$9.5 billion in 2029.¹³⁷
 - Canadians for Tax Fairness estimate of an annual net wealth tax at 1-2% on fortunes of over \$10 million: over \$10 billion annually.¹³⁸
- Financial Transaction Tax: Germany expects a new financial transaction tax to generate annual revenues of around 1.5 billion euros¹³⁹ In 2019 PBO estimated that taxing all financial transactions in Canada at 0.5% of transaction value would yield 14.96 billion in 2020-2021 (high uncertainty in estimate noted).¹⁴⁰
- Require E-commerce companies to collect GST/HST on online sales in Canada: PBO Estimate 781 million in 2020-2021¹⁴¹¹⁴²
- Implement a 3% tax on targeted advertising services and digital intermediation services on businesses with worldwide revenues of at least 1 billion and Canadian revenues of more than \$40 million: PBO Estimate 540 million in 2020-2021¹⁴³
- Address the tax gap resulting from the loss of tax revenues by failing to reduce overseas tax evasion. A rough estimate by the PBO in 2019 estimated that in 2018 this could be \$25-billion or more.¹⁴⁴
- Impose an excise tax of 20-50% on all sugar-sweetened beverages sold in Canada, increasing by 10% year-on-year to reach 50% in year three, with proceeds going to subsidize fruits and vegetables,¹⁴⁵ thought to be the part of the new Canada Food Guide most vulnerable to price increases.¹⁴⁶
- Continue the planned increase in the revenue-neutral federal carbon tax.

¹³⁷ "Net wealth tax on Canadian resident economic families." 8 Jul. 2020, pbo-dpb.gc.ca. Accessed 9 Jul. 2020.

¹³⁸ "Organizations call for wealth tax to bolster Canada's recovery" 8 Jul. 2020, taxfairness.ca. Accessed 9 Jul. 2020.

¹³⁹ "Germany sees 1.5 bln euro annual take from new financial" 10 Dec. 2019, reuters.com. Accessed 9 Jul. 2020.

¹⁴⁰ "Cost Estimate of Election Campaign Proposal." 25 Sep. 2019, pbo-dpb.gc.ca. Accessed 10 Aug. 2020.

¹⁴¹ "Cost estimate of Election Campaign Proposal." 25 Sep. 2019, pbo-dpb.gc.ca/. Accessed 15 Jul. 2020.

¹⁴² "Cost estimate of Election Campaign Proposal." 25 Sep. 2019, pbo-dpb.gc.ca. Accessed 15 Jul. 2020.

¹⁴³ "Cost Estimate of Election Campaign Proposal - Parliamentary" 29 Sep. 2019, pbo-dpb.gc.ca/. Accessed 15 Jul. 2020.

¹⁴⁴ "Preliminary Findings on International Taxation.pdf." pbo-dpb.gc.ca. Accessed 8 Aug. 2020.

¹⁴⁵ "A proposal to increase taxes on sugar-sweetened beverages" 30 Jan. 2020, cps.ca. Accessed 8 Aug. 2020.

¹⁴⁶ "Release: New Canada's Food Guide offers a more affordable" dal.ca. Accessed 8 Aug. 2020.

- Implement a Guaranteed Basic Income from October 2020 to October 2021 to ensure all Canadians 18-64 have income at least 75% of the Low-Income Measure, where the benefit is phased out by \$0.50 for every dollar of employment income, to be re-evaluated at the end of this period for potential continuation. PBO Estimate: \$45.8 billion for the first six months.¹⁴⁷

Benefits of Universal Basic Income

Recently, the Canadian Senate Finance Committee recommended full, fair, and priority consideration to a basic income guarantee.¹⁴⁸ MINCOME, a Canadian guaranteed annual income field experiment carried out in Dauphin, Manitoba in the 1970s, showed an 8.5% decrease in hospitalization rates in the group which received the basic income, as compared to those who didn't, with particular benefits seen with regards to accidents/injuries and mental health. Contact with physicians also declined, and more adolescents continued their education into grade 12.¹⁴⁹ Similarly, participants in the recent Southern Ontario Basic Income Experiment¹⁵⁰ reported less frequent visits to health practitioners and the emergency department, improved mental health, food security, housing stability, the ability to continue their education and take chances on a new job or career, and the ability to take more time with children with special needs and family members.³ The Ontario Basic Income Pilot reduced the GBI at a rate of \$0.50 for every dollar of earnings. Employment Insurance and Canada Pension Plan benefits resulted in a dollar for dollar reduction in GBI, whereas the Canada Child Benefit incurred no reduction.⁴

In July, the Parliamentary Budget Officer estimated that six months worth of guaranteed basic income to ensure all Canadians 18-64 have income at least 75% of the Low-Income Measure (LIM; \$24,439 for an individual and \$34,562 for a couple) from Oct 2020 to March 2021, using the parameters of Ontario's 2017 basic income pilot, could cost between \$45.8 billion (if the benefit is phased out by \$0.50 for every dollar of employment income) and \$96.4 billion (phase-out of \$0.15 for every dollar).¹⁵¹ The cost of a supplementary amount for disability would be \$1.7 billion. The PBO estimated that the potential offsets from repealing other income support measures for a six month period would be just over \$15 billion.⁴ Of note, the PBO did not attempt to quantify the savings to provincial healthcare plans of a reduced hospitalization rate or reduced physicians' visits; the savings to social services of reduced housing-related instability; to estimate the replacement cost of the childcare and elder care work made possible by the plan; to calculate the long term economic benefits of people having had a chance to reposition themselves within a new job market; or to cost the social benefits of improved physical and mental health. Based on previous studies, these elements could all be anticipated benefits of this Guaranteed Basic Income plan.

Benefits of a Tax on Sugar-sweetened Beverages

In Canada, the annual direct health care cost of obesity was estimated in 2015 to be \$7 billion in 2011, rising to \$8.8 billion by 2021.¹⁵² A World Health Organization meta-analysis shows that raising taxes on Sugar Sweetened Beverages alters purchase and consumption, with the strongest and most consistent effects for a levy in the 20-50% range.^{153 154}

¹⁴⁷ "costing a guaranteed basic income during the covid pandemic." 7 Jul. 2020, pbo-dpb.gc.ca. Accessed 8 Aug. 2020.

¹⁴⁸ "executive summary - Senate of Canada." 14 Jul. 2020, sencanada.ca. Accessed 8 Aug. 2020.

¹⁴⁹ "The Health Effects of a Canadian Guaranteed Annual Income" [jstor.org/stable/23050182](https://www.jstor.org/stable/23050182). Accessed 9 Jul. 2020.

¹⁵⁰ "Southern Ontario's Basic Income Experience - Labour Studies." 3 Mar. 2020, labourstudies.mcmaster.ca. Accessed 9 Jul. 2020.

¹⁵¹ "costing a guaranteed basic income during the covid pandemic." 7 Jul. 2020, pbo-dpb.gc.ca. Accessed 30 Jul. 2020.

¹⁵² "Trends and projections of obesity among Canadians - NCBI." [ncbi.nlm.nih.gov/pmc/articles/PMC4910458/](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC4910458/). Accessed 30 Jul. 2020.

¹⁵³ "Fiscal Policies for Diet and Prevention of ... - Redenutri." 6 May. 2015, ecos-redenutri.bvs.br. Accessed 10 Aug. 2020.

¹⁵⁴ "A proposal to increase taxes on sugar-sweetened beverages" 30 Jan. 2020, cps.ca. Accessed 15 Jul. 2020.

Canadian simulation of a 20% excise tax (When goods are made in Canada, excise tax is payable when the goods are delivered to the buyer. When they are imported, excise tax is payable by the importer, at the time the goods were imported)¹⁵⁵ could prevent 12,000 cases of cancer, 30,000 cases of ischemic heart disease, almost 5000 strokes and close to 1,400,000 cases of Type 2 diabetes over a 25 year period.¹⁵⁶The Canadian Pediatrics Society recommends such a tax, with proceeds going to subsidize fruits and vegetables, a measure designed to support the ability of families to align their eating with the plant-rich recommendations of Canada's new Food Guide. Taxes on sugar-sweetened beverages are recognized to be regressive (ie: impact low-income people more), however, given the health benefits, are felt to be of benefit regardless.

Given the possibilities of improving food security and farm income in Canada by growing more fruits and vegetables here (see "Food" section in 9) this has the added benefit of contributing to the pool of money available to stimulate new growth in the agriculture sector in a way that keeps Canadians healthy while protecting us from cross-border supply chain disruption and upcoming risks related to water scarcity in key fruit and vegetable-producing regions of the US and Mexico.

¹⁵⁵ "Excise taxes - Canada.ca." 22 Apr. 2020, [canada.ca](https://www.canada.ca). Accessed 30 Jul. 2020.

¹⁵⁶ "The health and financial impacts of a sugary drink tax across" [sciencedirect.com](https://www.sciencedirect.com). Accessed 15 Jul. 2020.



8. CARE AT THE CORE

Overview

Globally, governments provide nearly USD \$300 billion in pre-tax subsidies for fossil fuels, yet fossil fuels impose more than USD \$2.7 trillion in health costs.¹⁵⁷

This is not the strategy of a species that is acting in its own best interests. We need to put care for ourselves, and for each other, at the core of what we do.

Fossil fuels have funded much human progress and put food on the table for many families, but we now understand the catastrophic health risks of both climate change and pollution. The World Health Organization says climate change is the biggest global health threat of the 21st Century. Continuing to subsidize fossil fuel companies is like giving public funds to tobacco companies and making children sit in smoke-filled rooms.

Since the beginning of the pandemic Canada has spent an additional \$16 billion (\$12 billion USD) to support fossil fuels, only \$2.1 billion on clean energy¹⁵⁸ and \$625 million to support childcare,¹⁵⁹ despite leading childcare advocates indicating that \$2.5 billion is required.¹⁶⁰ Enough.

- Eliminate fossil fuel subsidies Not just “inefficient” fossil fuel subsidies. All of them. Redistribute funds to supporting a healthy future by caring for people now and building the low-carbon world we need to thrive.
- Establish a task force to design a National Seniors Strategy.
- Legislate a Community Care Act (universal childcare, pharmacare, psychological care, and dental care for low-income Canadians).
 - Given the role of childcare as a catalyst to the economy, immediately:
 - Allocate \$2 billion in additional funding to assist in the reopening of daycares.
 - Create a Federal Childcare Secretariat to steer policy development.
 - Commit to boosting annual childcare spending by a minimum of \$2 billion each year, beginning with \$2 billion in 2021-2022, moving to \$4 billion in 2022-2023, \$6 billion in 2023-2024, \$8 billion in 2024-2025, and \$10 billion in 2025-2026, at which point a national public childcare system should begin to be within reach.
- Establish compassionate crisis-response teams for all Royal Canadian Mounted Police Units to ensure trauma-informed psychiatric nursing support is available 24/7 for dispatch with officers to respond to crisis calls.

¹⁵⁷ "Fueling an Unhealthy Future - Vital Strategies." vitalstrategies.org. Accessed 8 Aug. 2020.

¹⁵⁸ "Canada - Energy Policy Tracker." 5 Aug. 2020, energypolicytracker.org/country/canada/. Accessed 11 Aug. 2020.

¹⁵⁹ "The Government of Canada is providing funding ... - Canada.ca." 24 Jul. 2020, canada.ca. Accessed 8 Aug. 2020.

¹⁶⁰ "A strategy for recovery: Making affordable child care for ALL a" timeforchildcare.ca. Accessed 8 Aug. 2020.

In Detail

Shift Money—Invest Public Funds in Care, not Carbon¹⁶¹

Fossil Fuel subsidies exist in many different forms, including subsidies of all stages of fossil fuel production, from exploration to extraction to transport, to plant construction and distribution, in addition to consumer subsidies.¹⁶²

In 2009, as part of the G20 summit, Canada committed to phase out inefficient fossil fuels subsidies, with the group's communique stating that, "fossil fuel subsidies that are inefficient "encourage wasteful consumption, reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change."¹⁶³ In 2016, at the North American Leaders' Summit, Canada committed to phasing out inefficient fossil fuel subsidies by 2025.¹⁶⁴

Numbers for Canada vary depending on the source. In 2019, the International Monetary Fund calculated that in 2015 Canada's Post-tax fossil fuel subsidies were \$43 billion US or \$1191US/capita (includes impacts of air pollution etc).¹⁶⁵ In 2019, the Federal Auditor General stated that Environment Canada's review of inefficient fossil fuel subsidies was incomplete and not rigorous,¹⁶⁶ and has stated, "Environment and Climate Change Canada did not define inefficient non-tax subsidy for fossil fuels but still determined that there were none."¹⁶⁷ Unfortunately, a single, standardized internationally-agreed upon calculation methodology does not exist, inadequate data is publicly available to permit an independent assessment, health and social costs are inconsistently included, and the "inefficient" fudge factor lends still more grey area.¹⁶⁸

Given that these estimates are approximate, it is difficult to calculate exactly what programs could be funded instead, but even if we consider only the \$16 billion in new support for fossil fuels allocated since the beginning of the pandemic,¹⁶⁹ and compare that to the approximately \$10 billion price tag for pharmacare calculated by the Parliamentary Budget Officer prior to the 2019 election, or the approximately \$10 billion per year that academics and advocacy groups estimate would allow for a universal publicly-funded early learning and daycare program, we can see that reallocation of these subsidies to a combination of community-based care and clean energy would transform our world. The fact that this hasn't already should infuriate us.

¹⁶¹ "Measuring Fossil Fuel Subsidies in the Context of the" wedocs.unep.org. Accessed 10 Aug. 2020.

¹⁶² "Facts and Figures - Ontario Long Term Care Association." oltca.com. Accessed 10 Aug. 2020.

¹⁶³ "Pandemic Experience in the Long-Term Care Sector - CIHI." cihi.ca. Accessed 10 Aug. 2020.

¹⁶⁴ "RELEASE & ANALYSIS: COVID-19 Death Rates in Ontario" 6 May. 2020, ontariohealthcoalition.ca. Accessed 10 Aug. 2020.

¹⁶⁵ "Global Fossil Fuel Subsidies Remain Large: An Update Based" 2 May. 2019, imf.org. Accessed 11 Aug. 2020.

¹⁶⁶ "Report 4—Non-Tax Subsidies for Fossil Fuels—Environment" 2 Apr. 2019, oag-bvg.gc.ca. Accessed 11 Aug. 2020.

¹⁶⁷ "Report 4—Non-Tax Subsidies for Fossil Fuels—Environment" 4 Apr. 2019, oag-bvg.gc.ca. Accessed 11 Aug. 2020.

¹⁶⁸ "Canada's Federal Fossil Fuel Subsidies in 2020 - International" 21 Feb. 2020, iisd.org. Accessed 12 Aug. 2020.

¹⁶⁹ "Canada - Energy Policy Tracker." 5 Aug. 2020, energypolicytracker.org/country/canada/. Accessed 10 Aug. 2020.

Let's look at what we should fund instead.

National Seniors Strategy

The pandemic has revealed that we are not caring for our Elders in the safe, humane, loving way they deserve. The majority of deaths from COVID-19 have occurred in care homes,¹⁷⁰ with spread enhanced by the fact that Canadian society has undervalued the world of long term care, underpaying a workforce that consists largely of racialized women, meaning that during the pandemic many have been having to work in two different homes to make ends meet, a situation which has contributed to spread of the virus.¹⁷² There has been a shortage of care providers as they have become ill, partly through lack of access to PPE, exacerbating a situation where, compared with the OECD average, Canada has been found to have fewer health care workers per 100 senior residents of long term care homes, with only half as many as in the Netherlands and Norway.¹⁷³ The quality of care in for-profit homes has been questioned: as of May 6 in Ontario, the mortality rate in for-profit long term care homes was 9% whereas it was 5.25% in non-profit homes and 3.6% in publicly-owned homes.¹⁷⁴

In the face of an aging population, a complete rethink is needed in the way we fund and organize homecare, long term care, and palliative care for Elders. The Canadian Medical Association has long-recommended the creation of a National Seniors Strategy.¹⁷⁵ Our pandemic-related learnings must be the painful prod that lead us to embark upon this and to complete it before the pandemic is wholly in the rearview mirror.

Canada Community Care Act

The Canada Health Act¹⁷⁶ is Canada's federal legislation for publicly funded health care insurance. If provinces and territories fulfill the Canada Health Act's five criteria— public administration, comprehensiveness, universality, portability and accessibility, and the conditions of information and recognition, and ensure there is no extra-billing and user chargers for insured health services, they are entitled to their full Canada Health Transfer.

The Canada Health Act covers many acute care services—but very little in the way of community-based care. That is unfortunate, because it means that many situations which could have been managed cheaply in the comfort of a patient's home in a low-resource fashion worsen, and the person ends up in the emergency department as a result of things such as caregiver burnout, suicidality, or the medical complications of not being able to pay for their medicine.

We need a Canada Community Health Act to cover out-of-hospital services. This will help us serve people where they want to be—at home, keeping them as part of their community. As a bonus—in preventing illness, we save greenhouse gas emissions and medical supplies—because the most environmentally-sustainable medical intervention is one that doesn't have to happen.

At this point in the pandemic the needs are most urgent for early learning and childcare, pharmacare, psychological care, and dental care for low-income Canadians.

¹⁷⁰ "82% of Canada's COVID-19 deaths have been in long-term care." 7 May. 2020, [thestar.com](https://www.thestar.com). Accessed 10 Aug. 2020.

¹⁷¹ "Mortality-associated-with-COVID-3-May-final-5 - Article from" 3 May. 2020, lccovid.org. Accessed 10 Aug. 2020.

¹⁷² "Continuing care and COVID-19: a Canadian tragedy ... - CMAJ." cmaj.ca/content/192/23/E632. Accessed 10 Aug. 2020.

¹⁷³ "Pandemic Experience in the Long-Term Care Sector - CIHI." cihi.ca. Accessed 10 Aug. 2020.

¹⁷⁴ "RELEASE & ANALYSIS: COVID-19 Death Rates in Ontario" 6 May. 2020, ontariohealthcoalition.ca. Accessed 10 Aug. 2020.

¹⁷⁵ "A Policy Framework to Guide a National Seniors Strategy for" cmaj.ca. Accessed 10 Aug. 2020.

¹⁷⁶ "Canada Health Act - Canada.ca." 24 Feb. 2020, canada.ca. Accessed 10 Aug. 2020.

Universal Early Learning and Childcare

COVID-19 has had a devastating impact on a struggling child care system, and has revealed it to be inefficiently market-based, fragmented and under-funded.¹⁷⁷ With 70% of licensed child care centres having laid off all or part of their workforce during the pandemic and one third of centers unsure whether they will reopen,¹⁷⁸ the situation is urgent: we need a new national system of regulated, licensed child care to lower costs, improve quality, raise the wages of care providers and support the economy in reopening.¹⁷⁹

Pre-crisis, most jurisdictions in Canada had only enough licensed childcare spaces to accommodate 40% or less of children under 6.¹⁸⁰ Childcare can pose a huge cost: in Quebec, childcare fees are generally below \$200/month, whereas in most of the rest of Canada the median monthly price of preschool aged childcare is over \$1000.¹⁸¹ Families in Vancouver and Toronto, already struggling with huge housing costs, have a double squeeze: those cities also have the highest childcare fees—and, unsurprisingly, the largest gender employment gap.¹⁸² The gender employment gap was smaller in Quebec, likely reflecting Quebec's universal low-fee childcare program.

Early learning and childcare is an economic catalyst. Not only does investing \$1 million in childcare create 40 jobs, at least 43% more than the next highest industry, but every dollar invested in childcare increases the economy's output (GDP) by \$2.30, one of the highest GDP impacts of all major sectors.¹⁸³

High quality early childhood education and care has huge equity and child-specific benefits. It improves cognitive and language development, behavioural development, and relationships with other children, with particular benefits for children from low-income families.¹⁸⁴

Why don't we have this already? Well, women's experiences of paid work is shaped by their caregiving roles to a greater extent than happens for men. In 2008 universal access to low-fee childcare in Quebec was estimated to have resulted in an increase in the employment of women of 3.8%, and a GDP increase of 1.7%, resulting in a tax-transfer return to the federal and Quebec government that exceeds the cost of the program.¹⁸⁵ Women are also disproportionately impacted by a lack of funding for childcare as part of the majority-female caregiving workforce. Meanwhile Canada has only ever had one female Prime Minister and, at this moment, has a single female Premier. And, there are likely considerably more fossil fuel lobbyists in Ottawa than childcare advocates. Our kids urgently need us to shift power and ensure evidence-based influence.

¹⁷⁷ "From Stabilization to Stimulus and Beyond: A ... - SSRN." 15 May. 2020, papers.ssrn.com/. Accessed 10 Aug. 2020.

¹⁷⁸ "A strategy for recovery: Making affordable child care for ALL a" timeforchildcare.ca. Accessed 10 Aug. 2020.

¹⁷⁹ "From Stabilization to Stimulus and Beyond: A ... - SSRN." 15 May. 2020, papers.ssrn.com. Accessed 10 Aug. 2020.

¹⁸⁰ "Report 4—Non-Tax Subsidies for Fossil Fuels—Environment" 4 Apr. 2019, oag-bvg.gc.ca. Accessed 11 Aug. 2020.

¹⁸¹ "From Stabilization to Stimulus and Beyond: A ... - SSRN." 15 May. 2020, papers.ssrn.com. Accessed 11 Aug. 2020.

¹⁸² "From Stabilization to Stimulus and Beyond: A ... - SSRN." 15 May. 2020, papers.ssrn.com. Accessed 11 Aug. 2020.

¹⁸³ "Literature Review of Socioeconomic Effects and Net Benefits." ccsc-cssge.ca. Accessed 11 Aug. 2020.

¹⁸⁴ "(PDF) Sound Foundations: A review of the research evidence" 9 Sep. 2017, researchgate.net. Accessed 10 Aug. 2020.

¹⁸⁵ "Impact of Quebec's Universal Low-Fee Childcare ... - OISE." oise.utoronto.ca. Accessed 11 Aug. 2020.

Preparatory Emergent Childcare Response

Moving forward, Early Learning and Childcare (ELCC) should be included in a Canadian Community Health Act, but an emergent pandemic-related response is required now.. This includes:

1. **Support childcare during reopening** Immediately allocate \$2 billion in new federal transfers to the provinces, territories and Indigenous communities to support childcare during reopening.
2. **Establish a federal child care secretariat** to facilitate collaboration with provinces/territories, Indigenous Peoples, and stakeholders, including staff for evidence-based policy development to:
 - a. improve accessibility: determine where services are needed, what kind are required and for whom.
 - b. improve quality of care through workforce educational requirements, remuneration, recruitment and retention, with an emphasis on pay equity.
 - c. ensure full public funding : Allocate ELCC spending of 2 billion in 2021-2022, increasing by \$2 billion a year, moving Canada towards a fully publicly funded system, in partnership with provinces/territories and Indigenous governments.
3. **Parent fees will be set by provincial/territorial governments** at rates ranging from 0\$ to what is determined to be affordable: public funds will make up the difference

Pharmacare

In recent years there has been broad agreement that a universal, single-payer, public pharmacare system would benefit Canadians.^{186,187} We are currently the only high-income country in the world with universal healthcare that does not also cover medications,¹⁸⁸ and as a result, about 20% of Canadians have no or inadequate prescription drug insurance.¹⁸⁹ The Parliamentary Budget Officer estimated the cost of a drug plan with universal coverage based on Quebec's formulary, with a \$5 co-payment on brand name drugs when a generic is available, with the Federal Government paying for incremental costs above that spent by provincial drug programs, at \$10.2 billion in 2020-2021.¹⁹⁰

A Canadian Drug Agency, proposed in the 2019 federal budget, and as part of a national pharmacare program, would allow for the development of a national formulary that can help maximize bulk buy benefits and save on overall per capita drug costs, as well as prevent the needless hospital admissions seen when people cannot afford their medications.¹⁹¹ This would improve our national coordination of essential medicine provision, meaning that if a climate-impacted world begins to make it more difficult, more often, to ensure adequate supply of pharmaceuticals (consider the problems seen with PPE supply and cross-border logistics during COVID-19, and the high likelihood of future crises as discussed in plank 3), our nation knows who needs what and how often, and can more easily

¹⁸⁶ "A Prescription for Canada: Achieving Pharmacare for All" canada.ca. Accessed 10 Aug. 2020.

¹⁸⁷ "Advisory council calls for \$15B universal, single-payer" 13 Jun. 2019, cbc.ca. Accessed 10 Aug. 2020.

¹⁸⁸ "A Prescription for Canada: Achieving Pharmacare for All" canada.ca. Accessed 10 Aug. 2020.

¹⁸⁹ "A Prescription for Canada: Achieving Pharmacare for All" canada.ca. Accessed 10 Aug. 2020.

¹⁹⁰ "Universal drug plan for Canadians - Cost Estimate of Election" 11 Oct. 2019, pbo-dpb.gc.ca. Accessed 10 Aug. 2020.

¹⁹¹ "A Prescription for Canada: Achieving Pharmacare for All" canada.ca. Accessed 10 Aug. 2020.

positively impact the supply chain, or bring production closer to home, either through Canadian businesses or crown corporations.¹⁹²

Psychological Care

Care for mental health is inadequate across much of Canada, with chronic underfunding of community-based mental health and a reliance on high-cost hospital-based psychiatric care.¹⁹³ This flawed system is now being faced with the realities of increasing eco anxiety,¹⁹⁴ the mental health impacts of quarantine,¹⁹⁵ and increasing alcohol sales during COVID-19.¹⁹⁶ A recent study by Deloitte which considers the impact of long-term unemployment on mental health, and the mental health impacts of previous disasters, predicts that the mental health impacts of COVID-19 will be considerable, disproportionately born by women, and will persist for years.¹⁹⁷ Evidence-based psychological services are not typically publicly funded.¹⁹⁸ We must now ensure that care by psychologists is incorporated into a Canadian Community Care Act.

Dental Care for Uninsured Canadians

Approximately one third of Canadians have no health insurance, leaving them vulnerable to pain, infectious diseases that can lead to systemic illness,¹⁹⁹ and the need for acute visits to hospital when severe illness manifests.²⁰⁰ A 2019 poll showed that 86% of Canadians would support publicly funded dental care to those without insurance coverage. A 2019 PBO Estimate of providing free dental care to Canadians with household income below \$90,000 was of 1.88 billion in 2020-2021.²⁰¹ The mouth is part of the body--this investment is an important contribution to overall wellbeing.

RCMP Compassionate Crisis Care Response Teams

There have been multiple concerns raised over the past several months regarding the ability of the police, including the RCMP, to respond in an equitable and compassionate way to people in mental health crises, particularly those involving black and Indigenous peoples. This has led to calls to defund the police in favour of reducing the drivers of crisis.²⁰² Supporting the social determinants as outlined in this platform is, indeed, key, however a certain number of psychotic breaks and substance abuse-related violent disruptions, amongst others, are impossible to prevent. Some municipal police services, such as the Vancouver Police Department, have established designated cars staffed with a police officer and either a psychiatric nurse or a registered nurse to respond to these calls.²⁰³ To prevent future trauma to Canadians, to protect nurses from being exposed to physical harm during housecalls, and to lend health-related expertise to police response, this system should be rolled out across Canada as part of RCMP work.

¹⁹² "SaskPharm: a proposal for provincial drug production - CMAJ." 12 Jul. 2011, [cmaj.ca/content/cmaj/183/10/1224.full.pdf](https://www.cmaj.ca/content/cmaj/183/10/1224.full.pdf). Accessed 10 Aug. 2020.

¹⁹³ "Mental Health in the Balance: Ending the Health Care" 14 Sep. 2018, cmha.ca/ending-health-care-disparity-canada. Accessed 10 Aug. 2020.

¹⁹⁴ "Ecological grief and anxiety: the start of a healthy response to" 1 Jul. 2020, thelancet.com. Accessed 10 Aug. 2020.

¹⁹⁵ "The psychological impact of quarantine and how to reduce it" 26 Feb. 2020, thelancet.com. Accessed 10 Aug. 2020.

¹⁹⁶ "Alcohol sales on the rise during COVID-19 pandemic | CTV" 30 Apr. 2020, kitchener.ctvnews.ca. Accessed 10 Aug. 2020.

¹⁹⁷ "Uncovering the hidden iceberg | Deloitte Canada." www2.deloitte.com. Accessed 10 Aug. 2020.

¹⁹⁸ "dis the health care parity - CMHA National." cmha.ca. Accessed 10 Aug. 2020.

¹⁹⁹ "Dental Care in Canada: the Need for Incorporation into" ubcmj.med.ubc.ca. Accessed 10 Aug. 2020.

²⁰⁰ "Potentially preventable hospital use for dental ... - PubMed." pubmed.ncbi.nlm.nih.gov/21841295/. Accessed 10 Aug. 2020.

²⁰¹ "Cost estimate of Election Campaign Proposal." pbo-dpb.gc.ca. Accessed 12 Aug. 2020.

²⁰² "RCMP's top cop says defunding police is 'more about funding" 23 Jun. 2020, ipolitics.ca. Accessed 10 Aug. 2020.

²⁰³ "Police Community Response Team | Vancouver Police" vancouver.ca. Accessed 10 Aug. 2020.



9. MAKE WHAT THE WORLD NEEDS

OVERVIEW

Invest in one another, in a good life now, and in the building blocks of a healthy future.

Skilled workers for a world of wellbeing

Relieve tuition-related debt and provide free tuition moving forwards to lower the cost of initial training and of switching gears mid-career.

Upscale the training of licensed nurses, care aids and early-childhood care providers.

Upscale the training of low-carbon energy, transport, and building sector workers.

Innovation

Increase federal research funding by 25%, with funds allocated to multidisciplinary, outcome-based research competitions..

Transport

Support the development of a Made-in Canada electric car, bus,& tractor industry.

Shelter

Treat housing as a human right. Affordable, efficient green homes.

Critical inputs

Explore the possibility of responsible mining of rare earth minerals

Reclaimed places and materials

Put people to work giving second life to materials and places that have previously served other uses--starting with creating safe spaces from orphan gas and oil well sites.

Food

The agriculture industry must be viewed as a critical engine of planetary health now and into the future. Regenerative, sustainable, local, soil-supporting low-carbon food systems that support farmers and nourish communities should be giving priority over a corporate-controlled export orientation.

"I have to explain the true source of the wealth of nations, distinguishing wealth creation from wealth extraction. The latter is any process whereby one individual takes wealth from others through one form of exploitation or another. The true source of "the wealth of a nation" lies in the former, in the creativity and productivity of the nation's people and their productive interactions with each other. It rests on the advances in science, which teach us how we can discover the hidden truths of nature and use them to advance technology. Further, it rests on advances in understanding of social organizations."

Joseph E. Stiglitz, Winner of the Nobel Prize for Economics, in "People, Power and Profits: Progressive Capitalism for an Age of Discontent"²⁰⁴

In Detail

Canada has traditionally seen itself resource-oriented, but is well-positioned to have innovation become its new calling card by building on its strengths, which include a well-educated workforce,²⁰⁵ world-class universities, and the potential for less weather-related disasters and relative stability in terms of water and food supply in a climate-altered world, as compared to other parts of the globe.²⁰⁶

EDUCATION

An Agile, Well-Trained, Future-Proofed Workforce

We are at a time of transition--from pre-COVID-19 to post-COVID-19, from high-carbon to low-carbon, from less machine-learning and automation to more. Data shows that the impact of graduating into a recession leads to large initial earnings losses that lessen over time but take ten years to disappear completely, and that the shock can impact the entire career.²⁰⁷ We must support students now and set ourselves up to be agile and able to retrain in both academic and skills-based spheres as the needs of the world change. In 2019, the PBO estimated the cost of forgiving tuition-related debt and eliminating tuition fees moving forwards at 16.4 billion, falling to 12.5 billion in year two and then approximately \$9.5 billion per year moving forwards as the debt part of the tally is reimbursed.²⁰⁸ Let's invest in one another.

Massive upscale in training low-carbon workers:

Energy

There were 298,000 jobs in Canada's clean energy sector in 2017,²⁰⁹ as compared to 170,000 direct jobs in oil and gas in 2018.²¹⁰ Falling fossil fuel prices have accelerated disruption in a sector in the midst of a transition made inevitable by ever-cheaper low-carbon technologies. Between 2010 and 2017 the number of jobs grew by 2.2% per year.²¹¹ Modelling in the Canadian Association of Physicians for the Environment

²⁰⁴ "People, Power, and Profits: Progressive Capitalism for an Age" news.columbia.edu. Accessed 10 Aug. 2020.

²⁰⁵ "Education attainment - Adult education level - OECD Data." data.oecd.org. Accessed 11 Aug. 2020.

²⁰⁶ "The 2019 report of The Lancet Countdown on health and" thelancet.com. Accessed 11 Aug. 2020.

²⁰⁷ "The Career Effects Of Graduating In A Recession - NBER." nber.org/digest/nov06/w12159.html. Accessed 11 Aug. 2020.

²⁰⁸ "Cost estimate of Election Campaign Proposal - Parliamentary" 25 Sep. 2019, pbo-dpb.gc.ca. Accessed 11 Aug. 2020.

²⁰⁹ "Canada's clean energy sector is big, growing fast—and" cleanenergycanada.org. Accessed 11 Aug. 2020.

²¹⁰ "Energy and the economy | Natural Resources Canada." 21 Jul. 2020, nrcan.gc.ca/energy-and-economy/20062. Accessed 11 Aug. 2020.

²¹¹ "Canada's clean energy sector is big, growing fast—and" cleanenergycanada.org/. Accessed 11 Aug. 2020.

Healthy Recovery report shows that in a scenario where Canada meets its 2050 net-zero target, 1.2 million additional jobs in clean energy will be created.²¹²
We need to train these people.

Care

The pandemic has laid bare Canada's already-identified need for additional caring hands.²¹³ Pre-pandemic, it was reported that nursing position vacancies have increased since Statistics Canada started tracking them in 2015, amidst growing indications of a labour shortage in the field.²¹⁴ Quebec has had to put out a call for thousands to train to provide long-term care,²¹⁵ and there is a known shortage of licenced early childhood learning and childcare workers.²¹⁶ A massive increase in training as well as requirements for licensed providers provided with a good wage in order that they stay in the sector is a good joint investment. Not only do caring professions perform high-value, low-carbon work that will be very much in demand through the pandemic and as our population ages, but caring human hands are expected to be difficult to replace with technology (imagine a robot trying to take someone's socks off!), providing good value and essential service for decades to come.

INNOVATION—Research

Subsequent to a one-third drop in research funding after 2013, in 2017 a Fundamental Science Review called for an increase in support from \$3.5 billion per year to \$4.8 billion, as well as the development of new bodies to oversee the granting.²¹⁷ After a funding boost in 2018, it stagnated in 2019, though an advisory body was created to oversee future government funding decisions. Canada should fulfill the recommendations of the Fundamental Science Review and commit to stable funding at a \$4.8 billion level, with the additional funds going towards multidisciplinary, outcome-oriented research with a strong public engagement component designed to help solve the challenges Canada faces between 2020 and 2050.

Transport

Canada is a big country that has had a significant automobile and bus manufacturing sector. To connect our rural areas to our urban ones, our present to our past, let's make Canada a leader in electrified transport. This decreases our contribution to climate-related poor health outcomes by reducing the 25% of our greenhouse gas emissions that are due to transport.²¹⁸ Other health benefits of moving to lower-carbon transport are immediate: in 2015 fine particulate air pollution related to land-based transportation was responsible for approximately 1063 deaths, resulting in a loss of economic welfare valued at approximately \$8 billion dollars.²¹⁹ Canada also has the highest pediatric asthma rate amongst high-income countries, with traffic-related air pollution responsible for approximately 1 in 5 new cases of asthma in children.²²⁰ Meanwhile, cycling decreases all-cause mortality, and walking to work reduces cardiovascular disease.²²¹ It's time for us to breathe easier.

²¹² "A Healthy Recovery - CAPE - Canadian Association of" cape.ca/healthy-recovery/. Accessed 8 Aug. 2020.

²¹³ "Canadian Nursing Shortage Shows No Signs of Easing" 28 Nov. 2019, hiringlab.org. Accessed 10 Aug. 2020.

²¹⁴ "Canadian Nursing Shortage Shows No Signs of Easing" 28 Nov. 2019, hiringlab.org. Accessed 11 Aug. 2020.

²¹⁵ "Quebec's bid to hire more long-term care staff creates new" 25 Jun. 2020, cbc.ca. Accessed 8 Aug. 2020.

²¹⁶ "Child Care in Canada at a Glance - Child Care Now." timeforchildcare.ca. Accessed 8 Aug. 2020.

²¹⁷ "Billion-dollar boost sought for Canadian science : Nature" 10 Apr. 2017, nature.com. Accessed 11 Aug. 2020.

²¹⁸ "Greenhouse gas sources and sinks: executive summary 2020" 22 Jun. 2020, canada.ca. Accessed 11 Aug. 2020.

²¹⁹ "Lancet Countdown_Policy brief for Canada_v01a.indd." <https://storage.googleapis.com>. Accessed 11 Aug. 2020.

²²⁰ "Global, national, and urban burdens of paediatric ... - The Lancet." 10 Apr. 2019, thelancet.com. Accessed 11 Aug. 2020.

²²¹ "Cycling or walking to and from work linked to substantial" bmi.com. Accessed 11 Aug. 2020.

- Invest political will and financial capital in catalyzing electric vehicle manufacturing, research and development, the electric vehicle supply chain, and skills-training for our workforce to transition into these areas.
- Invest in zero-emission vehicle charging infrastructure, with particular attention to connecting points on the highway system that currently have significant gaps.
- Implement a national zero-emissions vehicle sales mandate, modelled after that in British Columbia, that ratchets up gradually to 100% of personal vehicles sold by 2030.
- Invest in public transit systems through immediate transfers of funds for operational costs and ensure our public transit systems and school buses are equipped for the future through working with provinces and municipalities to make investments in zero-emission transit technology.
- Invest in zero-emission heavy duty vehicle purchase incentives and commercial hydrogen refuelling and electric charging infrastructure.
- Invest in the hydrogen supply chain, including hydrogen production, and hydrogen fuel-cell manufacturing.
- Work with municipal leaders to sharply increase federal investment in infrastructure to enhance the safety and appeal of walking and biking in urban areas.
- Begin a federal e-bike purchase rebate program.

Shelter

Affordable, efficient green homes, centered on an approach which views housing first as a human right.

Emergent Housing Response

COVID-19 has made it more difficult for many people to pay their rent, and physical distancing requirements have posed challenges to services for people experiencing homelessness. With winter coming and CERB ending, it is prudent to anticipate further pressures on existing systems.. A national Housing First philosophy is required.

1. As above, fund a Universal Basic Income to help families pay rent.
2. Consider an Emergency Rent Assist program.
3. Allocate additional funds to provinces and municipalities to assist in converting hotels currently at lower than 25% capacity to shelter hotels for people experiencing acute homelessness.
4. Develop a green modular housing build strategy in conjunction with provinces and municipalities to help provide employment options for those in transition, including construction, outreach, and management, to provide increased low-cost housing in the short-to-medium term.

Medium-to-Long term: put the green building industry to work towards a recovery from the COVID—19 pandemic

- Establish zero-emission building requirements in the National Building Code.
- Increase federal loans and grants to support social housing, and require that these are built in a low-carbon, efficient manner.
- Establish a federal rebate-based incentive to encourage households to make the switch from gas stoves to electric.

Retrofit Economy

- Allocate \$50 million to stimulate the construction of shovel-ready projects through 0% financing of energy audits.

Zero Carbon New Construction

- Immediately require all new federal buildings to align with Canada's 2050 net zero target.
- Grant up to 10% of the development costs for low-carbon public and private sector buildings. Scale funding based on the emission reduction potential of the new construction design, with a higher level of funding for projects with net-zero goals.

Critical inputs

Explore the possibility of responsible mining of rare earth minerals

Canada has significant deposits of rare earth minerals, set to be critical in decades to come for everything from wind turbines, to solar panels, to MRI machines. The Canada-US Joint Action Plan on Critical Minerals Collaboration was launched this year, however we have under-invested in research to facilitate efficient extraction, and are behind other jurisdictions.²²² Possible disturbances to international supply chains, however, offer renewed opportunities.²²³ Canada should make up for lost time by investing in the technological innovation required to profitably mine rare earth minerals in our geological context in a responsible manner that honours Indigenous governance.

Reclaimed Places and Materials

Orphan well clean up

As the publicly-funded \$1 billion dollar, 100 year remediation to reduce the risks of arsenic left at the abandoned Giant Mine near Yellowknife demonstrates, when resource companies go bankrupt, taxpayers can be left with the bill. Unfortunately, often there is no good way to properly remediate a site: the Giant Mine project has so far been unable to determine a safe way to extract the arsenic, and is simply paying to freeze it underground--in a melting subarctic.²²⁴ This is relevant to the clean-up associated with the oil and gas industry: we need to make sure sites are remediated while the companies are still viable.

²²² "Canada unlikely to see long-term benefits of US rare ... - CBC.ca." 7 Jan. 2020, [cbc.ca](https://www.cbc.ca). Accessed 11 Aug. 2020.

²²³ "The story of rare-earth metals shows how hard it can be." 9 Aug. 2020, theglobeandmail.com. Accessed 11 Aug. 2020.

²²⁴ "Green-lighting Giant's clean-up: a question of time and money." 29 Jan. 2020, cabinradio.ca. Accessed 11 Aug. 2020.

Clean up of old and unproductive oil and gas wells in Alberta is likely to cost between \$40 billion and \$70 billion.²²⁵ Clear timelines for the clean-up must urgently be established in all provinces. The recently announced \$1.7 billion for the cleanup of orphan wells²²⁶ should be maximally-leveraged to incur additional investments by industry in order to ensure the polluter pays, and to put as many people to work as possible.



**We need kids to clean up their messes.
They need us to clean up ours too.**

²²⁵ "Old, unproductive oil and gas wells could cost up to ... - CBC.ca." 8 Apr. 2019, [cbc.ca](https://www.cbc.ca). Accessed 11 Aug. 2020.

²²⁶ "Trudeau announces aid for struggling energy sector, including" 17 Apr. 2020, [cbc.ca](https://www.cbc.ca). Accessed 11 Aug. 2020.

Food and Farmers

We must create regenerative, sustainable, local, plant-rich, soil-supporting low-carbon food systems that support farmers and nourish communities.

"Our high-output, high-input, high-energy-use, high-emission food-production system transfers farm wealth to transnational input-supply corporations. Using ever-larger quantities of fertilizers, fuels, chemicals, plastics, and other purchased inputs increases emissions and lowers net incomes."

Tackling the Farm Crisis and the Climate Crisis--National Farmers Union, 2019.²²⁷

COVID-19 is expected to double the number of Canadians who are food insecure, from a pre-pandemic estimate of 4.4 million people.²²⁸ It has magnified the structural inequalities and lack of resilience in our agriculture and food distribution systems, and created unacceptably dangerous working conditions for migrant farm workers. Moving forwards, increasing water scarcity and climate-related changes in areas of key supply for Canada are likely to pose challenges to the availability of some foods.^{229,230}

Meanwhile, over the past 3 decades, agribusiness corporations have captured 95% of all farm revenues, leaving farmers just 5%, forcing them to take work off-farm to make ends meet.²³¹ Farm-related debt is growing, and every year, families who know and care about the land are forced to sell it and move off the farm due to exhaustion and debt.²³² When this land is transferred, most often it is bought and added to huge farmland investment companies, committing it in perpetuity to a high-input, high-greenhouse gas, high-waste model of farming that is utterly unsustainable for planetary health.

A wholesale effort to move education, research, training, and operations from corporate control into the public sphere is required in order to protect food security, farmers, soil and climate.

Aligning farm policy with the Canada Food Guide's plant-rich approach has benefits for human health, planetary health, and employment: fruits and vegetables are high-value-per-acre crops.⁷ In accordance with this, a gradual reduction in the number of cattle in Canada is desirable, while recognizing that agro-ecological food production is key to low-input, low-emissions and sustainable agricultural practices.²³³ The economic benefits to relocalizing food supply can be great: a 2015 study estimated that more than half of Ontario's \$20 billion in imported food could be produced in the province and that replacing only 10% of the top 10 fruit and vegetable imports in the province with locally-grown produce would increase provincial GDP by \$250 million and create 3400 new jobs.²³⁴ This can be aided

²²⁷ "Tackling the Farm Crisis and the Climate Crisis - National" nfu.ca/. Accessed 11 Aug. 2020.

²²⁸ "Growing resilience and equity - Food Secure Canada." 10 Jun. 2020, <https://foodsecurecanada.org>. Accessed 11 Aug. 2020.

²²⁹ "California dreaming?: How climate change could remake B.C." 14 Jun. 2017, cbc.ca. Accessed 11 Aug. 2020.

²³⁰ "Summary for Policymakers — Special" ipcc.ch. Accessed 11 Aug. 2020.

²³¹ "Tackling the Farm Crisis and the Climate Crisis | National" nfu.ca. Accessed 11 Aug. 2020.

²³² "Tackling the Farm Crisis and the Climate Crisis | National" nfu.ca. Accessed 11 Aug. 2020.

²³³ "Opportunities to Strengthen Southern Ontario's Food System." 1 Jan. 2015, mccconnellfoundation.ca. Accessed 10 Aug. 2020.

²³⁴ "Opportunities to Strengthen Southern Ontario's Food System." 1 Jan. 2015, mccconnellfoundation.ca. Accessed 11 Aug. 2020.

by subsidizing the purchase of fruits and vegetables with the proceeds from a tax on sugar-sweetened beverages, as mentioned in section 7.

Overall, the federal government must fundamentally refocus agricultural practices away from the maximum-export, maximum-production, maximum-input, maximum-emission farm and food systems and towards sustainability and resilience. In order to do this, we must reclaim research, education, and data management from corporations and return them to the public sphere. We must promote resilient, local food ecosystems, which provide good jobs, revitalize rural communities, reduce emissions, and produce tasty, nourishing food now and into the future.

Recommendations

1. Fund research and education to help farmers make the transition to significantly reduced input use and emissions while maintaining adequate yields:
 - a. Create 25 new test farms to reconstitute a national system which has been vastly-reduced in recent decades.
 - b. Fund independent research to determine which crops and practices are optimal for different parts of Canada in a changing climate, anticipating the 2°C of warming from the 1986-2005 baseline that can be anticipated by the 2040s according to Environment and Climate Change Canada's Canada's Changing Climate Report^{235 236 237 238}
 - c. Hire 1000 extension agrologists and support staff (cost roughly \$300 million per year, or 0.5% of current farm input costs).
 - d. Audit current educational practices at the nation's schools of agriculture to determine the percentage of content delivered by personnel with industry affiliation, and seek to reduce this in 5 years to 25% of the calculated baseline.
 - e. Convene, resource, and empower the Canadian Food Policy Advisory Council to actualize the Food Policy for Canada.
 - f. Develop a tax on nitrogen fertilizers to fund fertilizer-optimization/reduction research; targets to reduce N fertilizer use (tonnage has doubled in the past 29 years); ensure full implementation of fertilizer efficiency measures.
 - g. Develop "open source, public interest" data initiatives to facilitate variable-rate fertilizer application and make sure that farmers can freely operate and repair computerized equipment ("right to repair"),
 - h. Support the acceleration of on-farm renewable-energy production; the development of low-emission battery-electric trucks, tractors, and other farm equipment; and energy-conserving retrofits of farm buildings.
 - i. Convene, resource, and empower the Canadian Food Policy Advisory Council to actualize the Food Policy for Canada.
 - j. Encourage point-of-sale labelling which celebrates local production and the values, work and environmental standards those products represent.

²³⁵ "Growing resilience and equity - Food Secure Canada." 10 Jun. 2020, foodsecurecanada.org. Accessed 10 Aug. 2020.

²³⁶ "Tackling the Farm Crisis and the Climate Crisis | National" nfu.ca. Accessed 10 Aug. 2020.

²³⁷ "Opportunities to Strengthen Southern Ontario's Food System." 1 Jan. 2015, mcconnellfoundation.ca. Accessed 10 Aug. 2020.

²³⁸ "Canada's Changing Climate Report." nrcan.gc.ca. Accessed 10 Aug. 2020.







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