Contents

The International Court of Justice Advisory Opinion on the Obligations of States in Respect of Climate Change (140 pages July 23, 2025)

(subsequently referred to as the Advisory Opinion in this document)

Link to full text of the ICJ Advisory Opinion
https://www.icj-cij.org/sites/default/files/case-related/187/187-20250723-adv-01-00-en.pdf

A digestible version of the story:
Landmark court ruling a stark rebuke of Canadian position on climate change (Canadian National Observer 2025.07.23)
https://www.nationalobserver.com/2025/07/23/news/court-confirms-countries-required-fight-climate-change-icj

Canada's Fossil Fuel Funding Faces Growing Legal Risks After ICJ Ruling
https://cleantechnica.com/2025/08/05/canadas-fossil-fuel-funding-faces-growing-legal-risks-after-icj-ruling/

"Yet beneath the celebratory headlines, this latest subsidy highlights Canada's ongoing and problematic pattern of providing substantial public financial assistance to fossil fuel projects, even as renewable energy investments struggle to secure similar backing."
"The International Court of Justice's advisory opinion on July 23, 2025, regarding state obligations on climate change creates significant new legal risks around government subsidies for fossil fuel projects such as Cedar LNG. The court explicitly stated that nations have a legal responsibility under international treaty law and customary international law to protect the climate system from greenhouse gas emissions. According to the opinion, continuing to subsidize or authorize fossil fuel projects could represent internationally wrongful acts, potentially exposing governments to legal actions."

Presumably, direct and indirect support (grants, loans, subsidies, investment, loan guarantees) by Canadian governments at any level—including government agencies and contractors—which lead to additional GHG emissions can trigger the ICJ reparations penalties. Certainly, no grandfathering exemptions should survive past July 23, 2025, and likely that boundary date needs to go much further back, at least as far as 2005 (the baseline date for emissions reductions targets, and probably to whenever any government in Canada should reasonably have known from any international source about the foreseeable damage. In the early 1980s the Auditor General and Commissioner of the Environment and Sustainable Development began including climate change considerations in their reports to Parliament. For the U.S. oil industry, which had knowledge of the impacts of climate change going back at least as far as the 1960s, it seems likely the Canadian Department of Energy, Mines and Resources would have known then.

Beyond the future consequences for Canadian taxpayers for such liabilities incurred, but not yet quantified, I wonder why there is such current enthusiasm in the Canadian mainstream media—and allegedly within the current federal government—to double and triple down on more fossil fuel production and transport when it is an industry in decline globally. It appears the oil industry is doing minimal exploration or building of infrastructure with its own funds. Instead, it appears they are pushing producing assets to their limits and seeking projects for additional capacity only if they are funded by taxpayers. In other words, maximizing profits in overdrive and pushing ever more costs onto others (privatize revenue, socialize costs). Presumably, per the ICJ, the fossil fuels sector will not be liable for the future settlements; again, those costs will fall upon taxpayers.

There seems little need for additional capacity for oil pipelines in Canada. The TMX pipeline gift from taxpayers to the oil industry reaping record profits is not running at capacity, and continues to run at a deficit daily. Canada already has LNG liquefaction and tanker loading capacity with a sizable pipeline at tidewater, which may be running under capacity due to lack of ships, with more projects, e.g., Cedar LNG, already under construction (in South Korea—already off-shoring jobs).

It is definitely questionable if these are good financial investments as the demand for LNG worldwide does not appear to be growing to match past rosy forecasts and the customer nations are rapidly reducing their needs for natural gas as they transition to renewable energy more quickly than Canada is doing. It is ironic that the most recent major (taxpayer-funded) hydroelectric project in Canada (Site C) has been built specifically to power fossil fuel extraction and processing for export markets.

Implications for Canada and Canadian taxpayers

Now that massive and unpredictable national import tariffs based on the country of origin have again become a major part of the international trade regime, it is likely that the same mechanism will be used before long to impose a climate change causation penalty tariff system by ICJ member countries with a better record on GHG emission mitigation against countries which are gaining an unfair subsidy from the disproportionate use of fossil fuels without offsetting in-country pricing (taxation). This may initially be aimed at the U.S. due to its current encouragement of fossil fuel use and removal of recent incentives for emissions reduction. However, as Canada is a major petroleum producer which provides fossil fuel subsidies, it will likely be caught up in those penalties imposed by trading partners. Based on that pricing, Canadian exports will be increasingly unattractive in our trading partner nations.

How does Canada avoid the penalties which could flow from the ICJ Advisory Opinion?

I would like to suggest that Canada start with selecting projects in the national interest which are not clearly aimed at increasing national GHG emissions, and instead select projects which will increase Canada's quality of life and gross domestic product (GDP) going forward by investing in its people and mitigating damage from climate change which destroys assets and wealth. Less expensive energy than coal, natural gas and nuclear can be provided by renewables (notably wind, solar, biofuels, connected storage), more quickly and while reducing Canada's GHG emissions. As energy seems to underpin most of the rest of the economy (food production, transportation, construction, operation of buildings), making energy cleaner and less expensive should be the starting point for a ripple effect of virtuous economic growth.

Evaluation Process for Projects in the Canadian National Interest (2025)

I see these as key selection criteria for projects which could be of national value worthy of taxpayer funding. I don't see this list as complete, just a starting point.

A. The proposed project truly has a national scope.
B. The proposed project fits within the federal government's regulatory mandate.
C. The costs and benefits of the proposed project are viewed from a seven-generation perspective (more than a century).
D. The proposed project has a solid, credible expectation that it will deliver value to the residents of Canada broadly and not enrich a select fraction of Canadians or foreign interests at the expense of the majority of Canadians.
E. The proposed project will not trigger climate change penalties for Canadians in the future, based on the expectations flowing from the Advisory Opinion of the International Court of Justice (July 2025).
F. The objective(s) of the proposed project is (are) to create abundance of items of value (tangible and intangible) rather than scarcity as the basis for evaluating "wealth" for Canadians, e.g., clean air, water and healthy soil.
G. The value of "services" provided by nature—or the degradation of same—is accounted for in the evaluation process.
H. Carbon dioxide emissions should be priced at a minimum of US$100/tonne in current-day dollars (countries making real progress like Uruguay at $159, Sweden and Switzerland at $148 and Norway at $140 and are higher), and the inflation rate should be set to 2% annually (the Bank of Canada's target rate) for net present value (NPV) calculations.
I. Methane emissions should be set to a CO_2e multiplier of 104 (IPCC GWP rate for the 10-year time horizon, roughly the time methane remains in the atmosphere from time of emissions).
J. Climate change mitigation is valued more highly than adaptation as it typically has a lower cost for a greater and longer-lasting benefit.

I think it is also important to develop a key metric for evaluating the proposals, listing the advantages for Canadians (and possibly globally with a fractional modifier relative to value within Canada). The challenge will be to define a metric for values for Canadians vs. GDP-style valuation, e.g., should money spent on fighting avoidable wildfires be treated as an economic benefit? Is it beneficial to lose a few lives to the fires if we're creating a lot of employment evacuating people and livestock, building and operating water bombers, fire trucks, ground crews, rebuilding houses and infrastructure, and all the support they require? Simple GDP calculations would say yes. So, is that an appropriate metric? I think it is not.

Should the metric be based on the estimated cost of penalties to be paid by Canada set by estimated judgments against it under lawsuits relying on the logic of the Advisory Opinion? How would those amounts be estimated when no such judgments have been issued to date? Should Canada be creating a specific fund in preparation for such payments?

Beyond the Evaluation Process

Canada could set up a federal government managed fund for future ICJ judgments related to climate change. Fund it with import tariffs on products from other countries (notably the U.S.) based on their climate change causation impact using a state-level weighted rate like GDP / emissions produced in the most recent year for which there is data. (If data is suspect, go back to the most recent trusted data and use that continuously until data is credible, e.g., nothing from U.S. BLS after March 2025. Canada could also use the funds in the short term to support greening of Canadian economic activity, especially manufacturing, e.g., green steel as now being produced by Algoma Steel. (Care will have to be taken not to penalize early movers by rewarding only the laggards.) This interim usage would need to have provisions for recouping the outlays from economic gains that usage should provide to replenish the fund for paying ICJ-driven judgments.

There appears to be a fundamental assumption that the "private sector", typically meaning multi-national megacorporations and fully encompassing the worldwide financial sector, must be part of the climate change solution. I choose to differ. It would be superb if that sector chose to embrace survival of its customers over short-term profits, but their track record to date suggests otherwise. I believe people have intrinsic value and are the core reason Canada has a gross domestic product (GDP).

The "private sector" is not monolithic. It has many segments. For example, the insurance industry is quite large and internationally integrated via partnering risk pools and formal reinsurance arrangements, often backed up, if informally, by national governments (as happened in the 2007-8 "financial crisis" (which was really just the outcome of undue rewards for taking risky bets and insufficient penalties for those that lost that bets, if the losses were big enough). With multiple financial market bubbles now in play based largely on financial derivatives, there is an ominous feeling we are playing much the same game again now about 16 years later.

Large insurers in the property damage, personal liability and life sectors appear to be quite aware of the financial hazards of climate change. Premiums are increasing substantially year after year to match the growing cost of claims, and in some cases, insurance coverage is being refused altogether, putting the risk squarely on property owners in high-risk regions. We had been growing a pool of entrepreneurs (and some opportunists who made claims they could not fulfill) ready to bring climate change mitigation measures to market based in part on financial incentives (e.g. "carbon credits"). Now that many major western nations are busy dismantling those incentives, the signal to bring solutions to market is disappearing.

However, if people are prepared to support mitigation measures, it should be possible to bring progress back to the table with governments recognizing the future cost following from the ICJ Advisory Notification, civil society which has continued doing its part, and those parts of the private sector who intend to be around so long as humans are; that is, those entities that are not embracing the fossil fuel suicide pact for the human species.

We need an abundance of clean air, clean water, safe food and appropriate housing. We need less market manipulation, greenhouse gas emissions, toxins released into the environment and violence.

This is a message which aligns with humans and civil society, but not with megacorporations driven by greed. With the climate change existential threat staring directly in our eyes, governments need to pick a side. Some have; few on the side of human survival on this planet. I suggest the evaluation criteria for the national interest projects need to side with humans—the people governments are supposed to represent and protect.

With that in mind, I have immodestly provided a list of candidate projects I think would be worthy of consideration as being in the national interest, and justify the use of taxpayer money to bring to fruition. These are not proposals, just ideas in brief form. To be clear, I'm not going to be a funding project proponent for any of these. I'm just a citizen using my voice in the hopes this is a contribution of value.

When projects are being proposed for the purpose of creating private sector profits, it is appropriate that those intended beneficiaries should be the project proponents and bear the costs of the project from submission to construction and operation until the operation is closed down and remediation is complete.

When there is no private sector profit as the driver for a project, but the benefits will accrue to citizens broadly, I feel governments should be the proponents for the initiatives, and taxpayers and the environment will bear the costs. I see that as a legitimate approach, provided that there is separation and clear understanding of duties and responsibilities by both the evaluation group and the proponent(s).

National Projects Candidate List

National electricity transmission grid

Renewable energy projects which can connect to the national grid, including energy storage (battery, pumped water, compressed air …)—building clean energy generation with zero future fuel costs will make for very affordable electricity for Canadians, and an economic advantage for our industry (e.g., electric steel furnaces, more electric aluminum smelters, data centres, powering electric vehicles and their production, zero-emission shore power for tourist cruise liners, reduced health care costs related to improved air quality, reduced insurance costs related to climate change. As the U.S. spends the next few years moving back to increasingly expensive fossil fuels, Canada will be able to sell them electricity at a healthy profit (double entendre intentional).

This national project will require massive deployments of additional zero-emission electricity to meet new demands and replace fossil fuelled and nuclear generation as it ages out. That includes allowing Canadian companies to participate in the build-out, such as Canadian Solar is doing today in Texas due to lack of opportunities here.

New demands will include the roll-out of 5G and 6G networks. While each node in 5G and 6G consume less power than 4G, the shorter transmission range (due to higher frequency transmission) means there will be many more nodes, and this will result in increased overall electricity demand.

The national electric transmission grid does not need to be built on a coast to coast basis with turn-on only when complete. Instead, it should be built in segments (which can be disconnected when necessary) which create the highest value links first, e.g., from an area with surplus renewable capacity to an area facing supply threshold constraints or dependent on increasingly expensive fossil fuels, such as Alberta wheeling power from Manitoba when the natural gas generation plants fail during cold weather. Ontario could import electricity from Quebec with a more capable corridor to meet its summertime peak demand needs, while the reverse flow could help Quebec on cold winter nights (which would also help eastern Ontario which is supply-constrained by Ontario's lack of transmission capacity from the GTA eastward. As NL continues to increase its generation capacity, it could send power south from Labrador to the other Atlantic provinces, and west via Quebec. If Ontario chooses to develop more generation in the western end (e.g., expand Atikokan or refresh hydro plants now closed or underutilized (e.g., Kagwong Mill, Kakabeka Falls, Ear Falls and Lac Seul) , it could use a connection to MB to supply electricity to western Canada. With foresight, this connection could be routed to pass close to the "Ring of Fire" in northern Ontario, and once it reaches MB, could support a branch northward into the "empty middle" and potentially further north to support sovereignty initiatives. (Note, it may be more cost-effective and robust to install renewable generation in northern communities than string long lines of cable to them.)

This initiative needs to support the creation of a vertically integrated production capacity for supply and installation of renewable electricity and on-site storage to make the generation dispatchable and reliable despite resource intermittency. It's a known issue with a proven solution. Renewable electricity generation need not be only major projects; it can be implemented at household scale or microgrids. For

house-based generation (likely roof mounted PV), house batteries can be part of the solution. Virtual Power Plants (VPP) based on many small producers are being deployed in other countries now, stabilizing grids and reducing needs for additional transmission capacity by co-locating supply, demand and storage. Financial incentives for more householders and landlords to do the same would provide Canada with access to the lowest cost, low-emission electricity currently available with no high-level nuclear waste storage issues. For larger projects, Canada should focus on supply-constrained areas, and could start by reviewing some of the over 700 projects cancelled by the Doug Ford government in 2018. Most would likely cost less now than the proposals then.

An Intelligent Strategy on Reducing GHG Emissions

Growing more trees is not a GHG sink if we continue to have annual national wildfire events which turn trees into carbon dioxide sources, creating waste heat and air and water pollution, using massive quantities of water, burning aviation fuel to power water bombers and diesel to power fire response equipment like pumps, generators and trucks. There is plentiful expertise on how to manage forests to reduce the unplanned burns (designed water reservoirs and wetlands to act as fire breaks, ending the monocropping of tree plantations, allow old growth forests to regenerate, encourage trees which are more fire-resistant, clean up the forest floors which are littered with fuel due to climate-change induced mass dead tree zones due to mountain pine beetle infestations, etc.). I'm not an expert, but they do exist, just probably not within major lumber companies.

It's time to give up on the fossil fuel industry PR fantasy of a "green hydrogen energy system" for transportation and industrial applications. It simply can't work on an energy losses basis, and it has a raft of implementation issues the advocates won't even acknowledge. For more, please read my book on the issues and viable solutions. (I suspect there is likely at least one copy in the Parliamentary Library). For a continuing litany of hydrogen energy fails, review my hydrogen newsroll at https://www.econogics.com/TENHE/#newsroll.

Carbon capture technology isn't economically or energy-cycle effective. This has been proved time and again by taxpayer-funded projects at the behest of fossil fuel players since FutureGen circa 2003. It will be more cost-effective and faster to deploy renewable energy generation than try to retrofit carbon capture onto old fossil fuel generation, with the advantage that we can put the generation where it is needed now and for the future, and not stranded where the coal was (e.g., Estevan SK Boundary Dam). The one thing carbon (dioxide) capture, utilization and storage—aka CCUS—is good at is producing even more GHG emissions via its main production use: enhanced oil and gas recovery (EOR) and escape of the CO_2 gas in the produced oil, gas and water.

Electrifying as much of our energy use as is practicable and growing the proportion of our electricity generation from zero-GHG sources is the key to putting Canada on track to leading on climate change action. The second prong is making much more use of biomass for energy production, and particularly using waste materials for biodigesting (renewable methane or biogas—see more under Biofuels) and composting to make soil amendment displacing fossil industrial fertilizer for growing crops. Food is energy. (See more under Food Security.)

It will be argued that Canada should not bear the burdens of reducing GHG emissions when other countries will not do their part. This is one of the costs of leadership. This can be offset at least in part by imposing penalties (e.g., tariffs) on products being exported by climate laggard countries into climate leader countries.

Healthy Housing

Adequate housing is recognized as a human right in Canada.

Yet, from media reports and government statements, Canada (and other nations) appear to have a significant number of citizens who are unhoused or inadequately housed. Numerous solutions have been proposed by various parties, many of which appear to be about laying blame or seeking enrichment of vested interests from the public purse. This is likely the culmination of multiple factors over a period of decades, including:

- declining real incomes,
- a growing pool of the uncounted unemployed or underemployed,
- economic forces which lead to overpopulation in a few major cities while the vast enormity of Canada is largely empty and small communities are shrinking and disappearing,
- underinvestment in social housing,
- market manipulation to create artificial scarcity for profit and more.

Canada is now reaching a stage where certain types of housing (e.g., microcondos) are sitting empty even in our major cities due to what has been described as a bubble, and small investors are underwater on such properties.

I doubt there are any simple solutions, which is why the issue seems intractable. From my perspective, the coming consequences of climate change will cause damage to or destroy more existing housing, which will make matters worse.

I don't have a simple solution or magic wand to wave to resolve this. I think if anyone did, it would have been examined and put into action by now. Enough study has been done which shows people need a stable housing situation, a mailing address, a phone number and an email address in order to simply obtain access to basic services in our society today.

Personally, as I expect to see more Canadians become climate change refugees in the coming years, I think we need something with more substance than school gyms with cots and blankets as even a short-term solution. As much as I wince at the thought of the lost wealth and resources when a house is consumed by a wildfire or a flood or shoreline erosion or major weather events, they pale compared to the loss of people who are cast adrift.

This is why social agencies have repeatedly looked to "Home First" programs to help those people find a way to services they need and start on the road to reclaiming their dignity and valuing themselves. Housing isn't the entire answer, but it is a starting point; hence "Home First."

Transitional housing could be part of that path, including initiatives like 12 Neighbours in New Brunswick, the Jasper Interim Housing initiative in the wake of the 2024 wildfire, and an inventory of quickly deployed structures with basic amenities including a bed, solid walls and roof, locking doors for personal security and some property items and access to clean water, food, laundry, health and social services.

A healthy housing national build would have value for Canadians, including training, sweat equity (like Habitat for Humanity used to do), retrofits where financially appropriate, strategic reserves of construction materials resources (copper, steel, lumber—see also Strategic Reserves), designed to be adaptable for climate-change impacts (e.g., fire-resistant shells, relocatable, based on interstructure[1]), skills training so maintenance capacity resides in the community, includes modular major components (e.g., a roughed-in kitchen—electrical and plumbing—which can be "dropped in" as a half-day exercise by 1 or 2 people), building shells which can be erected by a "barn-raising" team with minimal heavy equipment. This would lead to a democratization of housing for Canadians.

Heat pump retrofits as part of healthy, energy-efficient retrofits and as standard equipment in new builds, implemented to facilitate future upgrades as technology progresses. Include PV rough-ins and space for house batteries as standard design for new builds.

Reduce variant electrical and plumbing codes in the provinces relative to the national codes as they are a form of interprovincial trade barriers. As the current housing squeeze in Canada is about to release its grip, Canada should look forward and focus on building better housing (affordable over lifetime cost of ownership, long-lived, efficient, healthy and upgradeable), not built to minimum legal standards and slapped together as fast as possible without regard to quality, focusing on high-margin cosmetic upgrades.

Eliminate natural gas for household appliances such as stoves, clothes dryers, water heaters, and as the technology becomes sufficiently mature and capable in colder climates, shift to heat pumps for space heating (and cooling).

Some examples of healthy housing are listed on the RESTCo website at:
https://www.restco.ca/RESTCo_House_Infrastructure.shtml (see the right-side menu bar)

Healthy housing is preventative health care, literally at home.

Domestic Automotive Industry

Create a domestic automotive industry that focuses on the vehicles that Canadians want and need, which is fully vertically integrated. Canada has a large number of automotive parts and components suppliers today, some of which are suffering impacts with changes in U.S. trade policy since March 2025. These companies could be foundational.

[1] Interstructure for housing is essentially a no-trenching version of infrastructure for water supply, electrical supply, heat supply hardline telecommunications connection and wastewater removal. "Infra" means under or below; "Intra" means between.

In light of the July 2025 ICJ Advisory Opinion regarding state liability for climate change consequences based on national emissions, Canada should be focusing on a domestic fleet that reduces GHG emissions in parts, components, assembly, delivery and energy use over the typical life of the vehicles, and potential for GHG reductions from the intelligent reuse and recycling of vehicle components.

As “green” hydrogen fuel cell vehicles are farcical, and petro-fuelled vehicles are a major contributor to the existential climate change problem and compressed air vehicles are impractical, the focus should be on human and electric-powered vehicles, with biofuels for extreme cases. This is a good fit for Canada which has the materials needed to make the batteries, vehicle shells, automotive glass, tires, wiring, motors, etc. (As a former Smart ForTwo owner, which was used for moving construction supplies, I know not all Canadians need six-seater, 3.5-tonne trucks to commute, get the groceries and occasionally move some stuff around. If Canada could wean itself from the yearning for urban assault vehicles for idling in gridlock, our national fleet could become much more efficient, less expensive to own, operate, insure and maintain, and generate fewer GHG emissions), which should contribute to less economic waste and improved GDP.

If Canada wants to shift to low GHG emission ground transportation by 2040, it will have to take control of its own destiny long before 2029 when the U.S. might start a shift back from delusional to rational thought on climate change. Canada will have to consciously stop killing innovation in the right directions (e.g., NEVs), supporting distractive fallacies (e.g. hydrogen as a transportation fuel), and set a rational course for a vertically integrated domestic transportation industry with minimal foreign supply lines. Trading dependence on an unreliable U.S. for China or Europe with longer supply lines is not a rational main approach.

This recent news from the Government of Canada is encouraging.
Backgrounder: Canada Accelerates Transition to Zero-emission Vehicles
On August 13, 2025, Claude Guay, Parliamentary Secretary to the Minister of Energy and Natural Resources, announced more than $25 million for 33 projects aimed at improving electric vehicle (EV) charging availability, decarbonizing freight transportation and developing innovative technologies for medium- and heavy-duty trucks.
https://www.canada.ca/en/natural-resources-canada/news/2025/08/backgrounder-canada-accelerates-transition-to-zero-emissions-vehicles.html

While most EVs can be charged nightly after operating a regular day shift within its range capacity, some—including medium and heavy trucks—may travel long distances from homes and regular base depots. Still, range anxiety continues to be blown out of proportion in the mass media and remains an obstacle for many to switch to zero and low-emission vehicle options. Increasing the number of publicly accessible charging stations, increasing their visibility physically, in mobile apps and websites, and making charging station use and payment increasingly simple and seamless (accept credit and debit cards), will help overcome this reluctance factor.

Until such time as a real EV battery plant is functional in Canada, perhaps we could import batteries from Panasonic’s new plant in De Soto, KS which is expected to start production before the end of 2025,

if the gutting of the U.S. IRA continues and Panasonic finds demand weak in the U.S. Canada should not charge tariffs on these batteries as they should be part of Canada's ICJ climate change liability solution. This should not prevent Canada from creating domestic production, or we'll be right back to dependence on the U.S. sourcing in the long term when the next Administration tries to right the U.S. ship and re-establish a place in international relations and trade.

Encourage a Canadian EV industry. Much of what is required is already in place or planned, such as making electric motors, electronics, batteries, home chargers, charging stations, vehicle assembly, sales and service. Canada could partner with a company (or companies) to speed up the shift, such as those based in South Korea (Hyundai / Kia) or Europe (Renault, VW Group) which is (are) prepared to joint venture with Canadian companies (possibly even partial government ownership—heck, the federal government is the sole owner of the biggest oil pipeline in Canada) to build or take over existing production plants. I would prefer no U.S. companies while Trump tariffs are in place, as the point is to diversify our trade away from the unreliable partner.

Another encouraging item: Volkswagen launches job blitz for St. Thomas battery plant https://lfpress.com/news/local-news/theyre-hiring-volkswagen-launches-job-blitz-for-st-thomas-battery-plant

For those vehicles where battery and fast charging technology truly is not sufficient (e.g., the need to travel more than 600 km by road without stopping and electrified highways are not practical), shift from diesel to biodiesel, which is mostly a drop-in replacement. (See more at Biofuels.)

Food Security

Food is energy.

Climate change is altering how and where we can successfully and reliably grow food crops in Canada. This needs to be addressed at the national level, with community level implementation and delivery (e.g. citrus fruit production in south-eastern Vancouver Island), and use of indoor farming for year-round production under controlled conditions protected from extreme weather exacerbated by climate change.

Biofuels

Canada currently produces a lot of oilseed crops (notably canola), though climate change may impact this in the next decade. Currently, Canada does very little processing of this crop within the country. Canada should increase domestic capacity for crushing canola to extract the seed oil, and then process it for food use (refined canola oil for cooking), and use the bulk of the oil for making biodiesel. This biodiesel can be blended with petrodiesel to reduce the net GHG emissions of the diesel engine fleet of trucks, tractors and other farm and construction equipment, as well as in electric generators as used for remote power generation e.g., backup power for dairy farms). Other vegetable oils can also be used to make biodiesel, including used cooking oil which is otherwise usually a waste product.

High-Speed Rail

It may not be conventional rail, it could be novel like evacuated tubes, maglev and linear induction propulsion, which are protected from the weather and do not require heavy rail infrastructure or snow clearing to be operational. The tubes could be roofed with photovoltaic panels to shade the tube, protect the tube from random small debris from storms and generate power for the system with surplus supplied to the grid at connection points.

As others have recommended, start high-speed zero-emission passenger "rail" service in Canada's high density zones (e.g., Trois Rivieres, QC to Windsor, ON (I suggest Montreal—Ottawa-Gatineau—Kingston for the eastern Ontario or western Quebec routing—it adds some time to the end-to-end route, but if it is truly high-speed, it should be OK with travellers, and provides distance from the U.S. border—like the Rideau Canal did). Other likely high-speed passenger rail runs could include Edmonton to Calgary and the BC Fraser Valley.

The physical "rail" lines can be integrated to connect with transit systems in major centres, and possibly the routes can piggyback on existing or abandoned routes like the Trans-Canada Trail, the radial railways of a century ago, GO Train routes, etc. to speed permitting and construction and facilitate inter-modal connections for passengers.

Short Haul Electric Aircraft and Drones

Canada has a vibrant, if niche, aircraft production industry which builds for domestic use and export markets. For certain applications, like short-haul air commuter aircraft or crop dusting, electric power and hybrid electric/liquid fuel technology is now on the cusp of being practical and economic based on reduced cost of operations and increased component life and reliability. Just as an example, the electric Regent seaglider is an interesting technology, say as a high-speed passenger ferry service between points like Vancouver and Victoria. Canada has a lot of coastline, and crossings on the Great Lakes.

Sovereignty patrols along our borders, military hubs in the north for staging and reconnaissance seem likely opportunities in the near term as Canada embraces the rapidly evolving robotics technologies for defence, which will likely be table stakes for any military force in the near-term.

Data Centres (AI)

Create a market for powering data centres in Canada, with the proviso the new facilities must produce or purchase enough green energy to power their data centres. We already know there is a power-production constraint and it is causing conflicts where electricity rates are rising for existing customers as data centres move to areas currently enjoying low legacy rates due to past good management and investments in generation technology.

It has been suggested that data centres could be using as much as 12% of all electricity consumed in the U.S. by 2028. There is no reason to believe Canada would be dramatically different, especially if we start to repatriate Canadian personal information data from the U.S. and onto Canadian sites to counter U.S. actions and interpretations.

As we move to electrify more transportation, industrial processes and household energy use, electricity use could increase even faster, at least until it hits supply or pricing threshold constraints. We need to plan for renewable energy abundance to enable progress on GHG emissions and climate change. There is some early pessimism regarding AI growth (bubble). Even if AI electricity growth is less than forecast, the new renewable electricity capacity will not go to waste, as it will support these additional uses for electricity, and allow retiring GHG-generating sources sooner.

Existing data centres could be given 3 to 4 years to show they are fully green energy powered physically onsite or via purchased green energy on the same grid (typically provincial boundaries). Placing new data centres in areas that are not currently constrained by reliable energy delivery should be a consideration. Agreements with placement on First Nations territories should be encouraged as they may be better stewards of renewable energy production than some provinces. New builds should be encouraged to use passive cooling technologies (e.g., infrared reflective building shells, passive ventilation, taking advantage of prevailing winds, geothermal storage, feeding district heating …).

If Canada moves fast, it could take advantage of the expected coming glut of Asian PV panels (late 2025 into 2026). These could be used to create PV generation facilities to supply agrivoltaics, household rooftop and community solar power initiatives. Based on creating a market pull for future PV projects, encourage domestic production of next generation PV technologies (bifacial, multi-layer, perovskite, selective wavelength …) Canada already makes aluminum and copper. It could re-establish a float glassmaking industry to make tempered low-iron anti-reflection glass.

Strategic Reserves for Scarce and Tariff-Impacted Commodities

A commodity which is not shipped to another country cannot be subject to the tariffs imposed by that country. Strategic resources (e.g., rare earth metals) which will be needed to carry out major national projects can be acquired as they become available and stored until they are needed (e.g., copper, aluminum and steel for a national electric transmission grid, lumber for housing, crops for later consumption or biofuels). It is not necessary to create central stores for such products incurring unnecessary transportation costs. Instead, storage can be established at the point of production and those creating that storage space can be reimbursed for any required construction and for the ongoing storage via monthly fees. The construction will create jobs dispersed across the country, potentially favouring those areas with high available labour pools.

The government can establish a fund for buying these products at market rates (thus not creating a subsidy in the eyes of other countries), which the producer can accept or not fully at their own discretion. The government funds will be recouped when the products are sold from storage to other parties (e.g., exports, private sector purchasing, use in national projects).

Producers will not be obligated to participate, but will be able to do so for part or even all of their production with reasonable notice to ensure appropriate storage capacity is put in place.

Guaranteed Basic Income

Today, people and small to medium enterprises in western economies, and particularly major trading countries like Canada, are facing serious uncertainty from multiple directions:

1) The resurgence of protectionist tariffs (some clearly not well thought out);
2) The expectation of a global recession;
3) Job losses due to AI and labour unrest as wages and pensions increasingly do not keep pace with inflation—eroding the purchasing power of people;
4) Growing threats to safety, property and wealth as consequences of climate change;
5) Growing fears that we are approaching tipping points on controlling climate change (or have already exceeded them);
6) War crimes being committed in multiple theatres by "developed" nations; and more.

> *Young people today face a triple disruption: technological creative destruction through AI and algorithmic systems, plus political and economic upheaval through tariffs and increasing fiscal uncertainty. While every generation has faced challenges, today's young people confront a massive reckoning between technology, economic opportunity, and personal identity.*
>
> - Kyla Scanlon (2025) *In This Economy?*

One of the expectations of governments in developed nations is to ameliorate such uncertainties and fears for their citizens, to enable them to plan ahead for skills development, career progression, and achieving life goals.

Part of the solution to overcome this uncertainty, worry and fear is to assure citizens that society recognizes their intrinsic value and support them when needed. That can be achieved in part by creating a Guaranteed Basic Income (GBI) for Canadians.

Beyond this core need, there are additional reasons why the GBI would make sense in Canada now. (There are many proposals for this, but my view is that it would an opt-in system. Some religious systems would be against accepting government handouts. The very wealthy might choose not to receive these payments, viewing them as an unnecessary complication for filing their tax returns. It could simply be a matter of personal pride. Whatever the case, citizens should not be forced to participate in receiving these payments.)

The GBI would have additional advantages for Canada:

1) Rationalizing all the myriad income assistance programs from pensions (CPP, veterans, disability…), provincial programs, municipal programs, even private funds if the funder and recipient agree, with payments on a bi-weekly schedule—like a pay cheque.
2) Employment insurance premiums would be paid into this GBI fund and distributed to those in need

3) Savings by reducing parallel bureaucracies into one payment system and workers trained in and dedicated to getting people the income supports to which they are entitled and need—possibly finding additional possibilities in the onboarding process
4) Putting fees from various practices which are creating the job losses, marginalizing and devaluing employment, fines from illegal labour practices and undoubtedly other items into this fund
5) Funds collected from retaliatory tariffs and other government revenue which is expected to be intermittent
6) Unclaimed government payments which have reached a certain age (e.g., 7 years)
7) Canada Green Bonds—let Canadians invest in a better Canada while displacing foreign debt and earning a fair and safe return.

This fund will not be administered by CRA, which has a mandate to obtain taxes primarily from workers and the disadvantaged (taxes on income, not on wealth or in offshore tax havens). Instead, it will be administered by the federal Minister of People (or whatever bureaucracy best fits that description).

People cannot plan for skills upgrading or other activities that take more than a year if they are unsure about their ability to have a survivable income for more than a month into the future. Skills upgrading leads to a more productive workforce, and larger earning workforce, which will increase national productivity and the income tax base.

Multiple studies and pilot projects have shown that guaranteed basic income regimes improve the quality of life for recipients, allow them to undertake skills upgrading they could not manage otherwise, aspire to and acquire better-paying work and increase their economic productivity, thereby increasing the GDP and income tax base.

[END]