



THE URGENT CASE FOR A SUPPLY REBUILD

Investing in a New Economic
Compact for Canada

Edward Greenspon and Sean Speer

NOVEMBER 2022



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ISBN: 978-1-77452-123-6



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ACKNOWLEDGEMENTS

The authors are grateful to a large number of interlocutors for helping shape the analysis and arguments in this report. We would also like to recognize the contributions from within the Public Policy Forum of Brian Bohunicky, Arash Golshan, Katherine Feenan, Gareth Chappell, Alison Uncles, Ania Czapajlo, Yacine Hacene and Naushin Ahmed.



INTRODUCTION

FIVE THOUSAND DAYS THAT CHANGED THE WORLD

Precisely 4,910 days passed between the collapse of Lehman Brothers investment bank in September 2008 and Russia's invasion of Ukraine in the winter of 2022. That is more than twice as long as the Second World War and almost exactly the collective duration of the presidencies of John F. Kennedy, Lyndon Johnson and Richard Nixon.

At first glance, the global financial crisis and Russia's unprovoked attack on its neighbour may seem completely unrelated. Yet they mark the opening and closing acts in a string of events that brought the final curtain down on the long-running neoliberal era of economic policymaking. These events include:

- China's shift from trading partner to belligerent rival;
- Russia's attempt to break the post-Cold War order;
- Multilateral efforts to tackle climate change;
- The protectionist machinations of Make America Great;
- The dominance of digitalization;
- The forcefulness of government in responding to the global pandemic; and
- Post-pandemic supply chain rethinking.

Together, they signal the need for a new policy narrative markedly different from the one that dominated from the 1970s into the early 21st century.

Yet if the previous economic paradigm has reached its best before date, a successor model for addressing today's collection of economic challenges has been slow to take shape. Politics in Canada and elsewhere has, for nearly 15 years, been stuck in an intellectual no man's land between a set of propositions that no longer quite explains our economy and a new framework for policy action that has struggled to define itself.

The good news is that a new crop of ideas is breaking ground in think tanks, universities, government treasury departments, corporate boardrooms and among a growing community of online economic commentators.

Better still, these ideas hold appeal across traditional political lines, which could calm social division and help restore policy-making coherence.

For the moderate left, this emerging agenda will provide a renewed commitment to public investment and a focus on market-shaping policies over the market-enabling tilt of recent decades. The net-zero target is a good example of a state directive that necessarily and fundamentally shapes market activity, including investment, innovation and trade.

For the moderate right, the model unblocks the labyrinth of rules and regulations that have accumulated over years, often with good intentions, with the consequence of slowing and distorting the creation of new economic activity. And now, for the first time since the Cold War, a national security screen is being applied to economic decision-making.

The new intellectual framework rests on two foundational pillars:

- > **The state once again playing an indispensable partnership role alongside business and markets in shaping the economy — in short, a return to industrial policy and geo-economics.**
- > **The pendulum swinging back to the supply side of the famous supply-demand equation at the heart of economics.**



Both respond to the need for huge game-changing public and private investment in physical and intangible assets and human capital. There should be no mistaking that government is back; it is true everywhere. The question now is how is it back — what its goals and objectives ought to be, how these should relate to broader economic, social and foreign policy trends and what the rules of the game must be among a strategically minded state, a dynamic private sector charged with implementation and an empowered public with little tolerance in any quarter for being left behind.

At the heart of this paper is a conviction that ideas matter. They are the raw material of human progress. For all the analysis and scholarship of our present-day economic and political state, we have underestimated the galvanizing role of a coherent set of ideas, and the public confidence they inspire. Ideational renewal offers a common vocabulary through which we communicate what is happening in our economy and conscript supporters to the cause of what is to be done.

John Maynard Keynes, who was himself so instrumental in putting forth a framework of economic ideas, once put it this way:



“The ideas of economists and political philosophers, both when they are right

and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist.”¹

JOHN MAYNARD KEYNES

This paper sets out to modernize the conceptual toolbox in service of the practical men and women seeking to prosper amidst radically changed circumstances.



CHAPTER 1

FROM THE DEMAND SIDE TO A SUPPLY REBUILD

From the panic of Lehman Brothers through to the alarm of the early pandemic period, governments and central banks responded by swiftly pumping unprecedented demand and liquidity into the economic system. Desperate fiscal and monetary measures succeeded in calming nerves and buying time for the economically vulnerable, consumers, businesses, financial institutions and governments themselves to find their feet.

Yet, even in normal times, the implicit mantra of economic policymaking has centred on lowering consumer costs and boosting economy-wide consumption through expansionary fiscal and monetary policies. It has come with some major drawbacks. This “consumption-oriented approach” failed to reckon with the inflating of coveted assets like housing and, as we discovered during the pandemic, it left us with reduced productive capacity in critical areas such as food production and biomedicine.²

Easy money was never intended as a sustainable economic model. For that, attention now must move from the demand-based and redistributive policies of the past decade



and a half to a supply rebuild. Unlike the contested supply-side policies of the 1970s, this new policy thrust holds the promise of an economic compact in which both progressives and conservatives can see themselves — not trickle down but build up.

This does not mean that demand-side policies are dead; breaking free of income inequality and economic exclusion will require both sets of tools. Regardless, we cannot continue with the demand side carrying disproportionate weight and the supply side being under-weighted.

If Canada is going to confront today's challenges and seize tomorrow's opportunities, we need to increase the supply of everything from housing to hydrogen, from IP to ICUs, from quantum computing to the next mRNA, from long-term investments in critical minerals to longer-term investments in human capital.

We need to increase the supply of things, ideas and people — the programmers, scientists, welders, teachers, nurses and countless others on whose backs and brains the digital-age economy travels. And we need to ensure for reasons of efficiency and equity that these opportunities are available to everyone. Scotiabank has calculated, for instance, that equal gender representation in

the workforce would eliminate more than half the unfilled jobs currently holding back the economy.³ We are either all in this together or we are not in it at all.

We have an enormous task ahead, akin to the expansion of rural electrification in the 1930s and 1940s or the overlapping 1950s and 1960s construction of the St. Lawrence Seaway, Trans-Canada Highway and TransCanada Pipeline, along with new mines, new dams, new campuses, new suburbs and more. We are talking of restocking the supply cupboard after years of running it down. It will require from demand-side policymakers a new approach to state capacity — an economic policy paradigm in which the cumulative power of capital, technology and talent are applied to stimulating supply and ultimately moving society from a limits-of-growth, scarcity model to the fulfilment of the long-standing liberal vision of abundance, inclusion and personal expression.

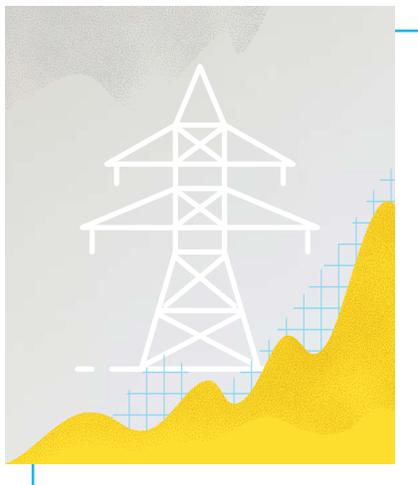
Demand policies can be driven from the centre, but supply requires all hands on deck. The fleet of electric vehicles (EVs) for which we are stimulating demand depends on greater supplies of critical minerals, charging stations and electricity. Without close partnerships between the private sector and its competency for getting things done, and the ability of state institutions to

reduce the risks of long-term investments in infrastructure and technologies or to speed or slow approval processes, supply simply will not keep up with demand. Affordability challenges will persist.

Look south for a glimpse of the new supply agenda. Despite its hyper-partisanship and a barely functional Congress, the United States in August 2022 passed a major climate action bill under the rubric of the Inflation Reduction Act. It puts a gargantuan US\$369 billion of direct investments and tax credits in the window to promote such pillars of the energy transition as a clean electricity grid featuring more solar, wind and battery storage, carbon capture and storage, and the future hydrogen economy.⁴ Energy companies in Europe and Canada are being actively courted to put their capital and technology into the United States. At the same time, the U.S.

committed nearly US\$250 billion through the CHIPS and Science Act and targeted export controls to regain its dominance in the semiconductor industry, which is foundational to the digitalization of everything from cars to communications and military strength.

These two bills represent a swing back from the laissez-faire orientation of recent decades to a co-dependency between the public and private sectors in joint pursuit of national interests. They reflect explicit industrial policy missions identified and incentivized by the public sector and carried out by private-sector actors. Although the acts provide the inducements of huge and flexible tax incentives, they are generally agnostic about how key advances, such as carbon capture or hydrogen, will evolve. They establish standards that must be achieved rather than prescribing pathways to follow. They are



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unabashedly pro-technology and pro-supply build, a contemporary equivalent to the space program or even the post-war military-industrial complex that spun off such everyday applications as the internet.

The new supply movement afoot is meant to push economic policy beyond defensive strategies. Building things and nurturing talent is about playing offence. It is not about eking out a bit more economic growth in a world of secular stagnation; it is about aiming to break out of scarcity and stagnation through a renewed commitment to building and production across the economy.

The Atlantic's Derek Thompson has labelled the unfolding economic paradigm the “abundance agenda.”⁵ George Mason University economist Tyler Cowen has described it as “state-capacity libertarianism.”⁶ Venture capitalist Katherine Boyle has talked about “rebuilding dynamism.”⁷ Blogger Noah Smith has called it the “Building More Stuff” movement.⁸ *New York Times* columnist Ezra Klein has chosen the term “supply-side progressivism.”

Perhaps the most persistent voice of this new movement is long-time Harvard economist

and globalization critic Dani Rodrik, who argues that for economic policy to find a political following it “must be guided by an animating vision.”⁹ To Rodrik, not only is a new set of ideas taking to the stage — he has adopted the term “*productivism*” to describe them— but there are already signs of convergence. He defines productivism in terms of “the dissemination of productive economic opportunities throughout all regions and all segments of the labor force.” Such an economic vision preferences “production and investment over finance and revitalizing local communities over globalization.” But it also departs “from the Keynesian welfare state model by focusing less on redistribution, social transfers, and macroeconomic management and more on supply-side measures to create good jobs for everyone.”¹⁰

Rodrik’s productivism does not seek to supplant the market in the form of state ownership or heavy-handed regulation, but it also does not reflect the market neutrality of the free-market era. It instead aims to use the levers of government policy to shape market outcomes in favour of greater supply, technological advancements and investments in human capital.

Importantly, U.S. Treasury secretary and former Federal Reserve chair Janet Yellen has also put her imprimatur and that of the Biden administration on the new movement. In a Davos speech in January 2022, she extolled “modern supply-side economics” versus classic Keynesian demand-side policies and 1970s-style supply-side approaches of deregulation and reduced taxes. As she explained:¹¹



“Modern supply-side economics, in contrast, prioritizes labor supply, human capital, public infrastructure,

R&D, and investments in a sustainable environment. These focus areas are all aimed at increasing economic growth and addressing longer-term structural problems, particularly inequality... Essentially, we are not just focused on achieving a high topline growth number that is unsustainable — we are instead aiming for growth that is inclusive and green.”¹²

JANET YELLEN

In a follow-up September article in *The Atlantic*, she noted four priority areas for rebuilding economic resilience and reinserting national security thinking into the economy: energy, food, digital technology and public health.

While geography and values put Canada squarely into an American-led ‘friendshoring’ camp, we also must remain mindful of the periods of unreliability of our largest trading partner in recent years (Keystone, steel and aluminium, N-95 masks) and its inward-looking domestic instability. There is no assurance the U.S. will embrace the same liberal vision in a new Cold War as it did in the decades after the Second World War. Buy America is still going strong. How do we hedge our trade bets as geo-political competition draws us closer into its orbit?

The basic insight of the supply rebuild is how the economic crises of the early 21st century inadvertently resulted in neglecting the economy’s supply side, which was already hobbled by a melange of rules and restrictions that make building things more time-consuming and costly. This, in turn, has created something of a choke point on innovation, productivity and economic growth, impeding the progress necessary if we are to double electricity or prolong healthy lives. Now there is hope the economic logjam can be broken. It starts with coalescing around, and implementing, the right set of ideas.



CHAPTER 2

THE RISE AND FALL OF ECONOMIC POLICY CONSENSUS

Economic policy works best when the details are vigorously debated but the fundamentals are broadly agreed. There is nothing irregular in our politics about long periods of policy consensus, which provide a basis for nations to move forward coherently through changes of government.

In the 1950s and 1960s, governments of different stripes advanced the welfare state and underwrote massive infrastructure projects in conjunction with an active private sector and while holding fast, as Keynes counselled, to fiscal prudence amidst growth. National health care in Canada evolved through Louis St. Laurent's Liberal government, the Diefenbaker Conservative government and, finally, the Pearson Liberals. A couple of decades on, the Mulroney Conservatives negotiated the Canada-U.S. Free Trade Agreement while the Chrétien Liberals signed the successor North American Free Trade Agreement (NAFTA). Globally, political economy benefited from basic policy concurrence and clarity along a spectrum that included conservatives, liberals and social democrats.

In the 1970s, the state activism of the mixed economy model started to hit a wall as costlier government, bureaucratized



programs and a knot of regulatory interventions weighed down the burst of post-war productivity and prosperity. The decade came to be defined by an OPEC embargo and long, agitated gas lines. The previously unimaginable pairing of high unemployment and high inflation (what became known as stagflation) flustered the Keynesians. The stifling of economic dynamism shocked the public. U.S. President Jimmy Carter's infamous "crisis of confidence" speech in 1979 seemed to capture a desperate wish for some form of paradigmatic change.¹³ The post-Second World War consensus, suddenly bereft of answers, had reached its point of diminished returns.

In its place came a reorientation toward market liberalization, including relaxed regulation, lower taxes, financialization, privatization of state assets, investor protections, globalized trade and curtailment of labour bargaining power.

Its best-known champions were British Prime Minister Margaret Thatcher and U.S. President Ronald Reagan, both inspired by University of Chicago economist Milton Friedman. After years in the wings, the Friedmanites had been handed the podium, enabling significant expansion and innovation in trade, finance and technology among liberal democracies and then, increasingly, within what some commentators dubbed "the rest." Poverty in China and the so-called BRICS (Brazil,

Russia, India, China and South Africa) fell dramatically, reflecting the global policy consensus and ushering in an unprecedented narrowing of income and wealth differentials around the world.

By the 1990s, the so-called Washington Consensus had permeated governmental thinking just about everywhere. The trend lines gained greater definition with the end of the Cold War. American political philosopher Francis Fukuyama triumphantly argued that liberalism had brought history to its end point. The new market orthodoxy found converts among governing parties at the federal and provincial levels in Canada and around the world. The centre-left in the form of the U.S.'s Bill Clinton, France's François Mitterrand, Britain's Tony Blair and Canada's Jean Chrétien came to embrace the same virtues of low inflation, balanced budgets and open markets as had been originally propounded from the right. Blair derided those outside the consensus by declaring that anyone who wanted to debate globalization "might as well debate whether autumn should follow summer." Clinton became a welfare reformer, Chrétien a deficit buster.

The neoliberal model eventually bumped up against its own natural limits. The weakened state apparatus, particularly in the United States, proved unable or unwilling to regulate the financial engineering excesses that saw Wall Street nearly take down Main



Street in the sub-prime mortgage crisis. Western governments sat on their hands as offshoring gutted manufacturing communities and incomes stagnated. As Rodrik has argued, the 1990s creation of the World Trade Organization in place of the General Agreement on Tariffs and Trade invited globalization to reach behind national borders and beyond governments. This marked a major departure from the more constrained post-war Bretton Woods border-to-border arrangement that had favoured national sovereignty and democratic accountability over economic efficiency,¹⁴ creating a win for globalization within the business community, but a loss among communities where people actually lived.¹⁵

Those feeling economically disenfranchised decided that autumn, in fact, was no longer following summer and cast their ballot

for Brexit and U.S. presidential candidate Donald Trump. The weakening of domestic productive capacity eventually came home to roost and would, in the pandemic, ultimately inject a new generation of national security vulnerabilities into the economy. Fukuyama (or at least a popular interpretation of him) was wrong: history, in the real world, never ends. His last man had stumbled and policy was no longer delivering the goods.

Liberal democracies are renowned for nimbly adjusting to changed circumstances. In the normal course, new thinkers emerge from their common rooms and write history's next chapter. But the world has struggled to find a new economic model for nearly 5,000 days, which in historical terms is perhaps not that long but in internet-era time is forever. As the Washington Consensus delivered less and less nourishment, the policy cupboard remained



Untethered from a fresh ideational framework, citizens have too often been subjected to disparate, one-off policy responses flowing from short-term reactivity rather than a long-term plan for a better future.

bare. Keynes had been honing the concepts of the post-war economic order since the previous world war and Milton Friedman and his Hayekian fellow travellers had been sharpening their arguments on the sidelines for decades before they got in the game. This time there was little beyond crisis management.

With the elite seemingly incapable of devising solutions or mustering empathy, the new animating version failed to launch. In nation after nation, governments seemed to be among the last to get the news that more and more people were losing confidence in “the system” itself.

Untethered from a fresh ideational framework, citizens have too often been subjected to disparate, one-off policy responses flowing from short-term reactivity rather than a long-term plan for a better future. The lack of a clear script has exacerbated political alienation from left and right. What the strange bedfellows of social justice crusaders, climate change activists and insecure blue-collar labourers of 20th-century resource towns have in common is a skepticism that “The Man” — the system — can be trusted to represent their interests. They have trouble discerning a set of principles meant to propel the nation into the future. We are essentially winging it, and everyone knows it.

This interregnum of policy zombie-ism will not last much longer. The outline of the new economic order has finally begun to present itself.





CHAPTER 3

PUTTING THE SUPPLY SIDE TO WORK

The emerging productivism or supply rebuild holds out hope for renewed political consensus and social stability. Whatever your term, this emerging set of ideas is not without definition, even in this early stage of intellectual development. It seeks to expand investment and production in high-growth, high-value parts of the economy such as advanced manufacturing, clean energy technologies, agriculture and agri-food, and biomedicines, like mRNA vaccines.

The coming wave of supply-side activities will represent something of an amalgam of progressive and conservative means. It will include a more positive role for the state in investing in people, technologies and infrastructure and will rely more on private investments and innovation to advance public interest goals. Post-pandemic political economy can be expected to be dominated by a new model of public-private complementarity focused on strengthening domestic industrial capacity, confronting climate change and boosting economy-wide progress.

One might think of this new, emerging consensus as situating itself somewhere between the Keynesian-era paradigm and the subsequent Washington Consensus. It shares with the



Keynesian model a more favourable view of the state to reflect political economy priorities in its policymaking as well as a concern for equity and inclusion. But it also reflects the Washington Consensus's insights about the limits of state power and the need to focus on economic efficiency. The underlying idea here is to mitigate the excesses of these two past approaches. This unique combination allows it to resonate with both the left and the right.

Its appeal lies in its responsiveness to the economic facts on the ground today, those both fundamental and fleeting. The recent reoccurrence of inflation is a case in point. University of Calgary economist Trevor Tombe has shown that price spikes are largely a product of supply crunches around the world, including most markedly in commodities such as energy and food.¹⁶ A supply-constrained economy, in other words — from rail and port bottlenecks to a disorderly energy transition — is driving up inflation.

The war on Ukraine is far from the whole story. Broader, more structural forces are at play, too — a series of supply blockages in energy, housing, manufacturing, innovation, health care and more. A supply-side fix is needed. The supply rebuild is also closely attuned to geo-political change. The Washington Consensus was born into an era in which nations were clamouring to join the global liberal order that revolved around the United States and the rulebook of the World Trade Organization. China was regaining its place in international commerce and was widely viewed as an opportunity, not a threat. Today, it is seen as both, with the threat side of the ledger ascendant. Russia, which had largely integrated into the free market system after the Cold War, today now stands as an outlaw nation in the eyes of much of the developed world, its economy subject to sanctions and increasing isolation.



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As a result, the world economic system is dividing into camps. The liberal democratic camp to which Canada belongs is working feverishly to wean itself off Russian commodities and Chinese capital and technology.

Geo-politics and the pandemic are pushing nations to “shorten” supply lines and calculate the costs versus security of patriating some activities or doing them with trusted partners, the so-called friendshoring to which Janet Yellen has referred.

As everyone now knows, Europe had allowed itself to become overly reliant on Russia for natural gas. China is far more dominant in higher value-added areas of the economy, such as the materials for pharmaceuticals and the manufacture of everything in the emerging clean energy universe, from solar panels to lithium-ion batteries. China refines 68 percent of nickel globally, 40 percent of copper, 59 percent of lithium, and 73 percent of cobalt.¹⁷ This poses an existential challenge for the putative friendshoring democracies, one that is beginning to elicit a reaction. EVs containing minerals from China or Russia or other non-democratic nations do not qualify for the Inflation Reduction Act’s US\$7,500 subsidy for EV purchases. The economic battle lines are being drawn.

Economic commentator Noah Smith has summed up the situation succinctly:



“We are in a technological, economic, and arms-race competition with enemies with highly

advanced tech capabilities, tons of production potential, and far fewer scruples than we have regarding the use of government power. We are not going to be able to deal with that problem by cutting taxes and opening our markets to more Chinese-made products and twiddling our thumbs and intoning quotes from Milton Friedman. Everyone except a few die-hard ideologues and vested interests realizes that on some level by now.”

NOAH SMITH

In area after area of the economy, we need to create a new supply sensibility. Our early vaccine scare opened a window into more pronounced structural challenges throughout the economy. The overall tilt of government policy should be in favour of increasing the long-run capacity of Canada’s economy — in other words, productivism. At its core, that means building more tangible and intangible assets and providing the means for all people — whether newcomers to Canada or from marginal groups and places — to participate as fully as they desire in the economy. We have been shaking our heads for decades about the credentials obstacles we place in front of skilled immigrants. This is a classic supply issue, and, somehow, we have yet to truly address it. It is one among too many.





CHAPTER 4

FOUR EXAMPLES OF THE SUPPLY CHALLENGE

For the purposes of this paper, we are more concerned with the under-development of the supply side rather than the possible over-stimulus of the demand side; not only because of immediate-term inflationary pressures but because obstacles to supply are value-destroying in terms of lost economic potential, weakening opportunities and living standards for all Canadians. With a fresh round of supply prospects and challenges on the horizon — from minerals critical to energy transition, to electricity supplies to make their extraction less carbon intensive, to the skilled labour required to move on multiple fronts — the time has come to get this right.

A supply rebuild will require a co-ordination of government activities, including the de-risking of early-stage technologies through public investments in R&D, science and technology, the unblocking of the rules and regulations that hobble building and production and the growth of labour market participation, especially by those with know-how. All these pieces will undergird the modern supply-side agenda.

The status quo will not do. Until recently, the World Bank published an annual Ease of Doing Business global report. Canada

fell in its rankings from fourth in the world in 2006 to 22nd in 2019. We ranked 63rd in terms of obtaining construction permits, taking 249 days to get one for a warehouse, which amounts to 168 days longer than in the United States and second worst in the Organisation for Economic Co-operation and Development (OECD).¹⁸

This regulatory morass is not the responsibility of any one government — it has built over time and across different jurisdictions. But the net effect is that we now find ourselves in the odd company of the Slovak Republic and other former communist states when it comes to the efficiency of our regulatory processes.

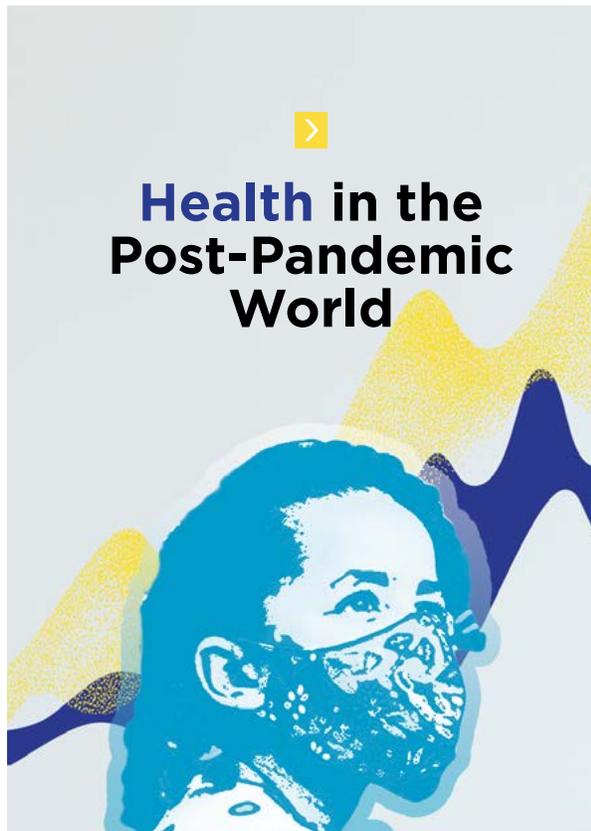
To the extent that delayed construction permits are proxies for tying ourselves in knots rather than offering public protection against unacceptable risks, Canada is getting slower while peer nations like Germany are

getting faster. Our low gear sends a harmful signal to investors in desperately needed energy transition projects such as offshore wind, hydrogen, carbon capture or liquified natural gas that their capital might be more efficiently deployed elsewhere. Canada is hardly alone in seeking to rediscover its ability to get things built on time and on budget. If we don't loosen the shackles and innovate in policy, competitive advantage is lost. If we can't organize ourselves to streamline and protect, we should at least be able to agree on new forms of treatment for those desperately needed clean energy projects.

We will look briefly at four examples: health care, housing, the energy transition, and people and ideas. If we could forge a policy consensus in favour of them, we will have taken a crucial step in boosting the supply rebuild agenda across the economy.



In a recent World Bank report on the Ease of Doing Business, Canada's rank fell from fourth in the world to 22nd and we ranked second worst in the OECD when it comes to obtaining construction permits.



Canada outperformed most comparable nations in the pandemic in terms of infection rates, deaths and, after a slow start, vaccinations, according to one of the few available studies.¹⁹ But we did so by scrambling to cover for deficiencies, spending extra money along the way and, quite possibly, burning out thousands of health-care workers and public servants.

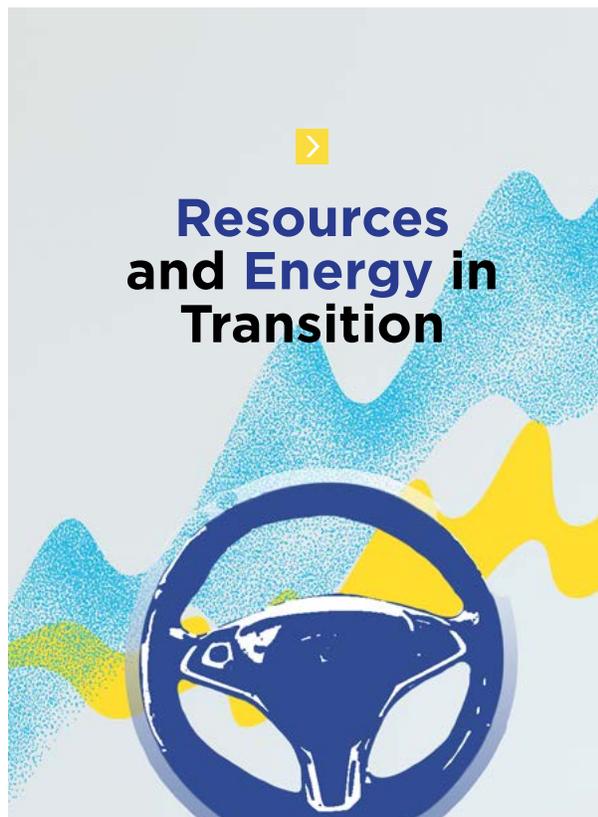
Canada found itself without supplies of personal protection equipment, despite the invocations of a 2003 task force into SARS²⁰ to always maintain such inventories. We also soon discovered that it was not beyond the

ken of the president of the United States to close the border to shipments of N95 masks. Our lack of domestic productive capacity in these key areas catapulted an economic shortcoming into a public health crisis early in the pandemic.

Then Canadians learned that despite being one of the highest spenders on health care in the OECD, we have the second fewest hospital beds and the fourth fewest intensive care unit (ICU) beds per capita among OECD countries.²¹ Even before the pandemic, the occupancy rate for hospital beds in Canada stood at 90 percent compared to less than two-thirds in the United States.²² The coup de grace was the realization that the nation of Banting and Best and their discovery of insulin had relegated itself to being the only G7 country without adequate facilities to produce vaccines.

Our supply insufficiencies extend to workers and skills, too. The pandemic forced us, finally, to face up to our well-known but unattended shortage of key health-care personnel such as nurses and medical technologists.

At this point, there are few who do not recognize that provincial health-care systems are in desperate need of more family physicians, surgical capacity, ICUs, medical goods, data and technologies and people. The only question is how best to solve a health-care supply crunch that will only worsen as the population ages.²³



The most obvious area where a lack of supply-side thinking threatens to spawn the next crisis is energy policy. We have committed ourselves through international agreements and domestic legislation — including the legislated goal of net-zero emissions by 2050 — to transforming the country’s energy system. As we discuss below, the goal of 100-percent EV sales by 2035 alone will require a massive increase in vehicle production and related public and private infrastructure.²⁴

The International Energy Agency (IEA) has said that half the technologies needed to reach net zero are still under development. The next decade will be about investing in them while getting the other half into the ground.²⁵

In basic terms, we need to cope with a doubling or more of electricity demand as personal transportation switches to EVs, home heating from furnaces to heat pumps or hybrids, and industry to electrification of its processes. The more we can do by efficiencies the better, but that again is a road we have travelled for many years without much progress. Electrification is easy to say, but the scale of need is daunting, particularly during a climate-induced energy transition. And that is before we get to the economics of it all. We are looking at investing tens of billions in electrification while we still struggle with the appropriate role of nuclear, the role of gas, opposition to wind farms located near cottages and fraught power line planning. We are looking at billions more for decarbonization, particularly through carbon capture. We are also looking at billions more for hydrogen development and wind — both offshore and onshore.

As a multi-generational global mining powerhouse, it is perhaps unsurprising that Canada is blessed with large deposits of rare earth and critical minerals, such as nickel and copper, that the world needs to develop



batteries and manufacture wind turbines, EVs and other foundational goods of the new energy economy. These can provide the domestic supplies to attract manufacturing and the export earnings to finance other energy needs.

But getting them out of the ground and moving them from recovery to processing to consumption takes years. The IEA, for instance, estimates that simply getting a new mine into production takes 16 years on average.²⁶ We need to shorten the production line.

The so-called Ring of Fire, named for a Johnny Cash song, provides a case in point. In 2007, exploration companies identified the crescent-shaped, 5,000-square-kilometre area in northwest Ontario as a motherlode of chromite, cobalt, nickel, copper and platinum.²⁷ Successive governments have been exuberant about the potential to bring riches to the province and, particularly, the First Nations situated in the remote lowlands of James Bay. “[The Ring of Fire] is the most promising mining opportunity in Canada in a century,” proclaimed Ontario’s 2010 Speech from the Throne. The Ontario Chamber of Commerce projected in 2014 that the Ring of Fire would generate \$9.2 billion in economic activity in its first 10 years and create 5,500 new jobs, many of them in places where private-sector jobs are scarce.²⁸

But 15 years on, the Ring of Fire is still the stuff of speeches. There is not much to show in concrete terms, including a much-ballyhooed all-season road in and out of the region. Little progress has been made to date on critical infrastructure issues such as roads, rail and electricity, skills training and Indigenous consent. The energy transition is left waiting by a decidedly low spirit of productivism.

The energy transition represents the most obvious area where supply-side thinking is required. We have committed ourselves through international agreements and domestic legislation to transforming the country’s energy system. In Canada, the mandatory target of zero emissions for all new light-duty cars and passenger trucks by 2035 alone will require a massive increase in vehicle production and, in turn, related public and private infrastructure.²⁹

It is difficult to overstate how crucial it is that we expedite these processes if we are to meet ambitious targets for electric vehicles. Consider for instance that the Biden administration projected that electrifying just 20 percent of U.S. domestic light-duty vehicles would require approximately 25, 49, and 22 percent of all the nickel, lithium and cobalt (respectively) mined globally in 2019.³⁰ We are going to need more mining, and fast, if we are to meet our climate goals.

Action stations

Urgent infrastructure is needed to support the explosive growth in EV use

	2020	By 2025	By 2030	By 2035
ESTIMATED EVS IN CIRCULATION	203,150	1,019,009	4,632,759	12,366,822
PUBLIC PORTS NEEDED	N/A	52,000	195,000	442,000

Source: Dunskey Energy and Climate Advisors

We are also going to need charging technologies. An August 2022 study for Natural Resources Canada by Dunskey Energy and Climate Advisors estimates the country will need about 50,000 publicly accessible chargers by 2025 (versus fewer than 20,000 today); that number will grow to about 200,000 by 2030 and more than double by 2035.³¹ In addition, a half-million or so household charging stations will be needed by 2025.

We will not be able to realize an energy transition without the ability to build major, new energy projects that replace our reliance on fossil fuels. This point cannot be overstated: Our climate goals and promises have locked us into a “building more stuff” agenda. As so-called ecomodernist Ted Nordhaus has written:



“There is no plausible path to a low-carbon economy without a serious

deregulatory program”³² — or at the very least, a re-regulatory reform, since our Paris Agreement commitments and net-zero undertakings already create a regulatory framework for emissions-reduction actions.

TED NORDHAUS



The Trans Mountain Expansion Project provides a cautionary tale about the challenges of building things in Canada. When Kinder Morgan first unveiled plans in 2013 to twin an existing pipeline, construction costs were estimated at \$5.4 billion and the in-service date was December 2019. The National Energy Board granted regulatory approval in 2016, but legal challenges and protests continued. The price tag had risen to \$9.3 billion when the federal government stepped in to purchase the project for \$4.5 billion in May 2018. Even then, delays continued, particularly in municipal permitting. The parliamentary budget office declared in June 2022 that the project's total expected cost is now \$21.4 billion, that completion will not occur until 2023 and that the pipeline, according to its analysis, is "no longer a profitable undertaking."³³

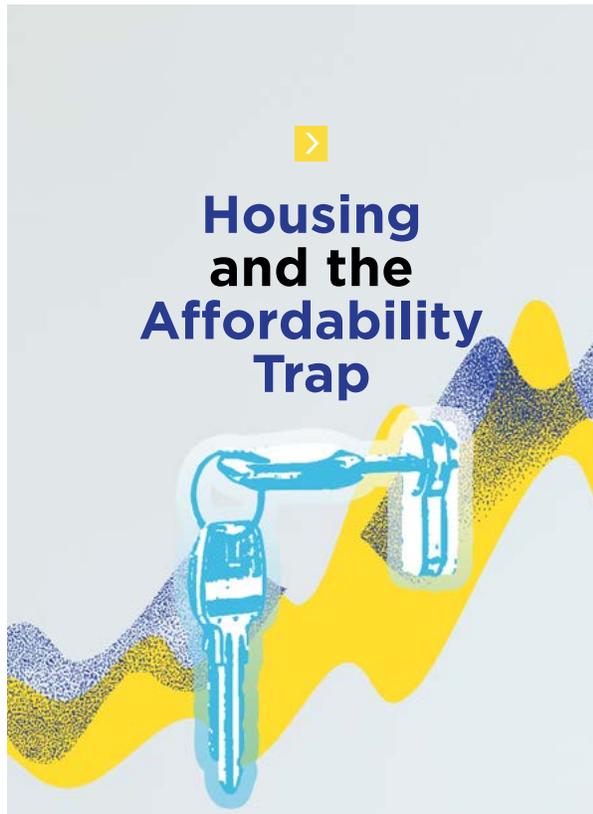
A greater focus on supply-side dynamics must go hand in hand with greater ambition and urgency. Canada has something of a first-mover advantage³⁴ when it comes to carbon capture and storage (CCS), which represents exportable technology, as well as a crucial means of getting to net-zero emissions. Yet while the federal government first officially broached the idea of an investment tax credit for CCS in the 2021 budget,³⁵ it did not

begin outlining the details (including policy design and quantum) until its subsequent budget, and then organized a consultative exercise. While Canada finetuned its approach to carbon capture, the U.S. has altered the competitive landscape with climate provisions in its Inflation Reduction Act, including a menu of investment and production tax credits for carbon capture and hydrogen projects.³⁶

Every day without action is another day our so-called carbon budget — the amount of carbon that can be emitted before triggering global warming above 1.5 to two degrees Celsius — grows unnecessarily.

The risk now is that Canadian companies will put their cleantech capital to work in the United States. A new supply-side agenda would inject greater urgency in Canada's need to get cracking in a world increasingly on the move.

A useful frame for thinking of these issues is that, as policy scholar Eli Dourado has put it, "climate change is a technology problem." This means that the ultimate means to solving the energy decarbonization crisis lies in investing in the supply of intellectual property, talent and, ultimately, the building of new facilities. Once again, that requires all hands on deck.³⁷



Housing provides our third example. Governments at all levels — federal, provincial, municipal and Indigenous — have proposed solutions to galloping housing prices and, in so doing, affirmed the accepted wisdom among 30-something Canadians that we’re in a housing affordability crisis. The facts bear this out: In 1976, the average price of a house represented 3.8 years of earnings; by 2019, it was 9.8 years.³⁸

Rising housing prices reflect a mismatch between supply and demand in a country that welcomes more than 400,000 immigrants — one percent or more of the population — per year. While this is particularly acute in Montreal, Toronto and Vancouver, home to more than half of immigrants,³⁹ the rise of remote work and a more welcoming attitude toward immigration in places such as Atlantic Canada has widened the housing crisis to most communities.

Scotiabank Economics has shown that Canada has the fewest homes per capita of any G7 country.⁴⁰ It estimates an extra 100,000 dwellings would have been required to even maintain the ratio of housing units to population since 2016, let alone restock our low housing inventory. Although we are just slightly behind the U.S. in houses per capita, we would need to add some 1.8 million homes to our housing stock to reach the G7 average.

The Canada Mortgage and Housing Corporation estimates that at the current rate of housing starts, Canada will add 2.3 million units in the decade to 2030. But 3.5 million units are required — 50 percent more than those already underway.⁴¹



Experts have identified a host of zoning and other local restrictions that discourage the densification of our cities by placing disproportionate power in the hands of homeowners versus those trying to get a foot in the door. Other factors are at play as well, including the historically low productivity growth and technology adoption in construction methods. For decades, houses have been built by a small platoon of men — almost always men — arriving on site in the morning and wielding their tools into the afternoon.

While housing has largely eschewed the adoption of automation, robotics and digitalization, some homebuilders are now turning to manufactured homes, built at a central location using modern technologies and employing more inclusive workforces. These go well beyond mobile homes or the pre-fabs of the 1960s; the big supply opportunity in housing lies in building differently by marrying homebuilding to manufacturing.

Addressing the country's housing supply challenges will mean more than helping aspiring homebuyers, though that is a noble goal. The housing affordability crisis harms the national economy by inhibiting labour mobility, particularly the ability of talented workers to move to places that offer the greatest opportunity, often our dynamic, job-creating cities. A well-known U.S. study estimates that restrictive land-use rules in productive cities like New York City and San Francisco lowered potential economic growth by 36 percent between 1964 and 2009.⁴²

Boosting housing supply will require a comprehensive public and private response, including local land-use reform, an expedited regulatory process, higher productivity in the construction sector (including innovation in alternative materials, design and building methods), and alternative financing models to lower construction costs and boost new builds.⁴³



Supply is not just a physical concept. It is about people, too. Canada needs to increase our supply of doctors and nurses and scientists. We need talent. We need high-end labour. We need to create the most educated workforce in the world. We need home care for our sick and elderly. We need more entrepreneurs and engineers to start and grow companies and develop and scale new technologies. We need more skilled tradespeople to build the public and private infrastructure required to fuel our economy and improve the environment.

Although Canada has done better than other developed countries in labour supply, thanks to our more open attitude toward immigration, we obstruct our supply of skilled labour in a tight labour market with myriad rules that impede recognition of newcomers' credentials, forcing people into jobs that do not advantage their training. Even if they become credentialed in one province, there is no certainty the credentials will be recognized in other provinces. As with internal trade barriers, this is a matter that we as a country have identified for action time and time again, but our blocked-up supply systems fail to optimize the potential.

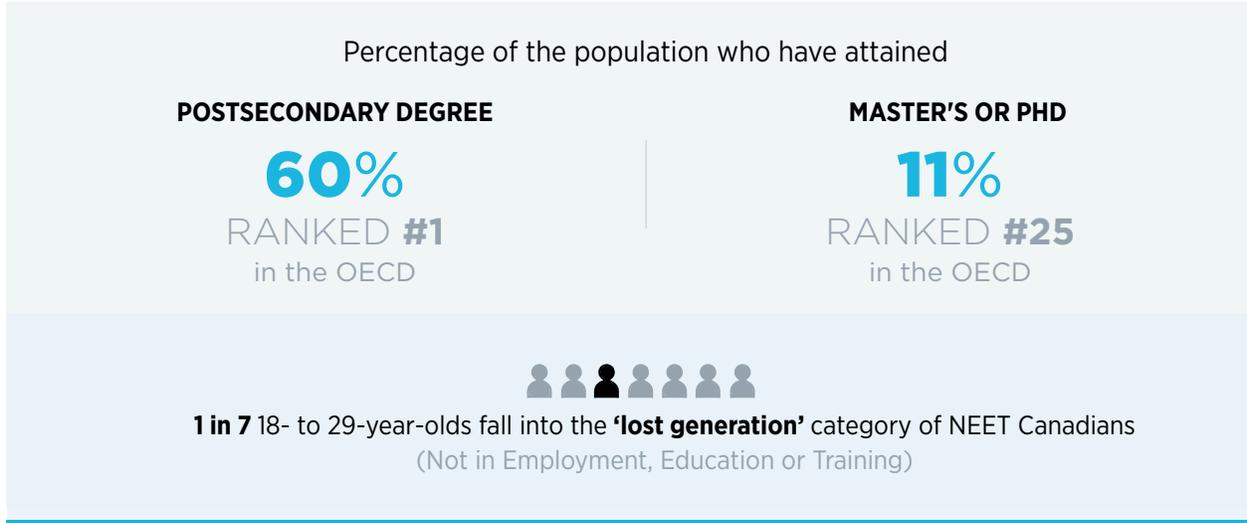
Canadians are rightly proud that we rank first in the OECD in post-secondary educational attainment, largely because of a large contingent of college students. But in a world in which those highly educated in sciences, technology, engineering, math (STEM) and commerce produce a disproportionate share of economic activity, our supplies are low.

If one digs a bit deeper into the topline numbers, Canada ranks 11th in bachelor's degree attainment and near the bottom of the OECD in master's and doctoral degree attainment — 25th out of 31 OECD countries, with only 11 percent of Canadians having attained a master's or doctoral degree against the OECD average of 16 percent.⁴⁴ When it comes to master's degrees in



As clever as we think we are?

Canadian educational attainment, ranked



Source: Canadian Association of University Teachers, OECD.

STEM disciplines, which are key to future invention and innovation,⁴⁵ Canada has the worst record in the G7. France has graduated three times as many STEM professionals, Germany twice as many. Our record with STEM PhDs is somewhat better, but still well behind the leaders.

The real tragedy, though, lies not so much in reduced opportunity as in no opportunity. We suffer from an oversupply problem of NEET Canadians (Not in Employment, Education or Training); one in seven (14 percent) of 18- to 29-year-olds falls into this “lost generation” category. While very close to the OECD average,⁴⁶ the figure begs the question: Can we truly call ourselves inclusive and count on a socially cohesive future if we do not pull more people into work and learning?

Other measures tell similar stories. Canada lags other OECD countries in expenditures on research and development as a percentage of GDP, a deficiency that is most pronounced when it comes to business R&D versus public research by government and post-secondary institutions. The overall trendline has been downward since peaking in 2001, when Canada ranked 13th out of 36 OECD countries in so-called research intensity. By 2020, we had fallen to 21st. Worse still, we are one of only five OECD countries to decrease our proportion of research spending in this intellectual property-rewarding century, going from 2.02 percent of GDP in 2001 to 1.7 percent in 2020, versus the OECD average of growing from 2.1 percent in 2001 to 2.68 percent in 2020.

Economic advantage today is disproportionately driven by an intangibles economy made up of assets such as data and intellectual property that cannot be moved by forklift. In a modern economy, the supply of ideas drives national advantages more than physical assets, with intangibles representing more than 70 percent of the value of the Toronto Stock Exchange.⁴⁷

Canadian investment in intellectual property is less than half that of the United States as a share of GDP,⁴⁸ so, when it comes to total production and global market share, Canada underperforms in advanced industries such as pharmaceuticals and computer technologies. A recent study by the Information Technology and Innovation Foundation in Washington found that Canada is increasingly falling behind its global peers in high-growth, high-value advanced industries such as pharmaceuticals and computer technologies. As the report states:

“From 1995 to 2018, advanced-industry output as a share of the Canadian economy fell by 33 percent and now stands at just 60 percent of the global average, well below Mexico and barely above the mostly developing countries included as “rest of the world.” If Canadian policymakers wanted it to equal the same share of the Canadian economy as the global average, advanced-industry output would have to increase by two-thirds, or US\$57 billion (equal to 3.3 percent of Canadian GDP).⁴⁹

If we do not turn this around and start rebuilding soon, and more quickly, we condemn ourselves to being drawers of intellectual wood and hewers of intellectual water.





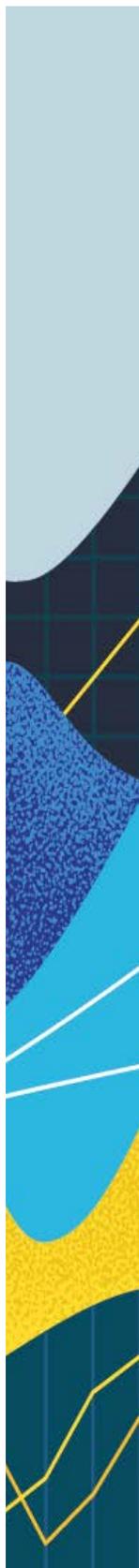
CONCLUSION

WHAT WOULD DONALD MACDONALD DO?

Canada, the land of moderation, embraced the orthodoxy of the Washington Consensus a little later and a little lighter than many others. The most important push came from outside the halls of power in the form of a royal commission chaired by former Trudeau-era cabinet minister Donald Macdonald. His assignment emanated from the desk of Liberal Prime Minister Pierre Trudeau and, three years later, landed on the desk of Progressive Conservative Prime Minister Brian Mulroney, the moderate conservative contemporary of Thatcher and Reagan.

Macdonald had started out on the nationalistic left of the Liberal Party as a Walter Gordon acolyte and, two decades later, ended up a business Liberal. As far as he could tell, the facts had changed since his earlier support for policies such as a foreign investment review act and a made-in-Canada oil price. “In due course, I looked back after 15 years of effort and realized that very little of what we had done had actually served our purpose,” he would later reflect.⁵⁰

Macdonald believed commissions like his provided a once-in-a-generation opportunity “to discover Canada’s place in a changing world.”⁵¹ In a speech to the University of Toronto law faculty in March 1984, he described the point of the exercise



as a means to new policies and attitudes “in order to make life tomorrow better for us, both individually and collectively as a nation.”⁵²

Macdonald viewed his report, the last concerted reckoning of Canada’s economic prospects, in terms of five core themes, which remain salient today:

That final point, in particular, travels intact through the decades. Canadians again

- > Unemployed Canadians wanted to work rather than rely on government;
- > Canadians believed social and economic policy should bring the country together rather than tear it apart, as had happened in the past;
- > Canadians sought to be part of the decision-making process;
- > Canadians desired an end to unnecessary confrontations among the regions or between the people and their politicians;
- > Canadians wanted their growing sense of uncertainty replaced by a clear sense of national direction.⁵⁷

want their growing sense of uncertainty replaced by a clear sense of national direction. Pollster after pollster finds them sullen and feeling a loss of control in their lives. They may not know the details, but they can feel how a changing world has intruded into their towns and cities.

In many respects, Macdonald was standing on the shoulders of C.D. Howe, the main architect of Canada’s post-war economic policies, for whom the building that houses today’s department of Innovation, Science and Economic Development is named.

As the Second World War wound down, Howe set out his ideational framework for post-war reconstruction in his April 1945 Canadian White Paper on Employment and Income.⁵³ As with today’s supply rebuild, it called for a collaboration by the private and public sectors aimed at raising living standards of Canadians and the competitiveness of Canada.

The white paper said that: “The decision to invest private funds in capital goods will depend on the [businessperson’s] view of the prospective margin of profit to be made on the investment.” But if high employment and rising living standards were to be achieved,



“the endeavour to achieve it must pervade all government economic policy. It must be wholeheartedly accepted by all economic groups and organizations as a great national objective, transcending in importance all sectional and group interests.”⁵⁴ It also set out that Canada must work off its strengths — resources and the manufacturing capacities developed during the war. As a relatively small economy, Canada would have to focus where it could enjoy comparative advantage to export and secure access to those markets. Investment was key, both in hard infrastructure like the St. Lawrence Seaway and Trans-Canada Highway and soft infrastructure like science, industrial research and worker training.

Government created the plan for growth and would serve as a partner to industry in achieving its economic vision. This was very much in keeping with the activist post-

Confederation government of Sir. John A. Macdonald, who ensured a transcontinental railway would be built and a protected manufacturing sector nurtured; or of Sir Wilfrid Laurier’s “the 20th century belongs to Canada,” who ratcheted up immigration way beyond today’s norms to settle the Prairies and create a great productivist agrarian economy.

The question that resounds through the decades is: How does Canada fit into a world in constant motion? What is our value-add and how, as a relatively small nation with high ambitions for the living standards of our citizens, do we set ourselves up for success?

One way or another, the new set of circumstances afoot in the world requires that we re-tether ourselves to an intellectual policy framework for the times. In climate policy, there are constant exhortations about



Canadians again want their growing sense of uncertainty replaced by a clear sense of national direction.

the need for ever-greater ambition. As with decarbonization, the same can be said for child care, health security, digital connectivity, life sciences and so on. To create a fairer and more prosperous society in which everyone can participate and benefit, we need more and better stocks of supply wherever we look. And a faster-growing and dynamic economy — one that breaks free from the “two-percent trap” in which growth has been stuck for the past two decades — is a crucial prerequisite for any of these broader goals.⁵⁵

Roughly a decade after the Macdonald commission submitted its final report, Andrew Coyne wrote about how it had permeated our economic thinking: “Whether in Liberal or Conservative guise, we are now governed by the Macdonald Party; our national ideology is Macdonaldism.”⁵⁶

This so-called Macdonaldism provided the ideational foundation for what became a multi-decade, multi-partisan Canadian consensus about the goals and approaches to Canadian policymaking, which held sway with six consecutive federal governments and many more provincial ones. Macdonald’s most famous counsel was to urge Canadians to take a leap of faith on free trade. They debated the matter with passion and urgency and, following a heated election in

1988, Parliament ratified the Canada-U.S. Free Trade Agreement.

What shape would Macdonaldism take today? What would his 21st century leaps of faith look like? The commission’s work was, as its final report explained, rooted in the fundamental question: “Can we not do better in the future?” That question has never changed.

We believe a modern Macdonald would conclude that, as moderates, Canadians are disinclined toward the vacuousness of conspicuous consumption or the capitulation of de-growth. Canadians have always sought practical solutions to their real-world problems, ones that will allow for a tomorrow that outshines today. He would seek out a modern leap of faith or two, challenging us to be pragmatic and bold at the same time, and inclusive of all (we would add particularly of Indigenous Peoples, who stewarded these lands and waters for millennia and seek the sovereignty to enjoy new sustenance from them). Macdonald would urge us to show faith in the leap to the future.

It is in the same spirit that this paper calls for the formation of a *new supply rebuild compact*, one constituting huge amounts of investment by the public and private sectors and one capable of forging a consensus that can rally Canadians from the left, right and still considerable centre, from small towns and



large cities, from coast to coast to coast, from generations just coming of age to those just gearing down. He would say that failure to act on long-term growth and the public goods that flow from it is to concede the terrain to stagnation and polarization; that this would represent an abdication of responsibility, opportunity and solidarity.

We have lived through an extraordinary 5,000 days since the Lehman Brothers collapse. The burdens and costs of intervening developments weigh on Canada's economy, society and politics, and those of our friends in the other liberal democracies. Fortunately, a new set of answers is coming into focus, not as clearly as with the Keynesian and Friedmanite economic frameworks, but with greater and greater definition.

As Donald Macdonald himself said, Canadians desire a clear sense of national direction. What that looks like at the quarter-pole of the 21st century begins with a policy shift to promote massive investment in a supply-side rebuild that will deliver decades of inclusive growth and higher living standards for Canadians.

The clock is ticking.



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