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Building Canada's Net-Zero Workforce

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EXECUTIVE SUMMARY

In the face of an increasingly urgent climate crisis, governments around the world are setting net-zero targets, with many corporations following suit. Canada has set a national greenhouse gas (GHG) reduction target of 40–45% emissions by 2030 and net-zero emissions by 2050. The transition to net zero will not only help mitigate climate change, but also presents a tremendous economic opportunity. New products and services will be needed, and it is projected that \$100 trillion US in private capital will be invested in the global clean economy between now and 2050.

Canada has a generational opportunity to develop a workforce with the skills and knowledge to thrive in — and build — a net-zero economy. This opportunity is shaped by a unique convergence of factors, including demographic shifts, labour and skills shortages, the climate crisis, and net-zero commitments. This report, developed on behalf of the Net-Zero Council of the Canadian Chamber of Commerce, lays out the rationale for, and benefits and potential components of, a federal net-zero workforce plan. The plan would guide government, industry and workers through this pivotal workforce shift.

Bill C-50, also known as the *Sustainable Jobs Act*, is the critical foundation for the net-zero workforce plan. A net-zero workforce is only a subset of

sustainable jobs, but an appropriate focus of this report in light of the urgency of the transition. Leveraging the *Sustainable Jobs Act* is an important opportunity to advance a broader agenda, including addressing the national skilled-labour shortage and leveraging current policies and efforts across sectors and levels of government.

The Act identifies 10 action areas that are key to driving the net-zero economic and workforce transition.¹ A net-zero workforce plan that operationalizes many of these actions will lead to numerous benefits, including:

- **A transformed workforce with opportunities** to apply new knowledge and skills toward climate solutions.
- **A private sector that is incentivized to contribute** to physical and human capital efficiency strategies.
- **Sustainable job creation and economic growth** built on regional and sectoral approaches, acknowledging differentiated impacts of labour shortages and the transition to net-zero.
- **New opportunities for historically under-represented groups** to participate and thrive in Canada's economic future centred around diversity, equity and inclusion.

To accelerate the development of the net-zero workforce plan, the Canadian Chamber of Commerce recommends that the government prioritize three activities:

Specify the mechanisms and processes of the Sustainable Jobs Secretariat

- Appoint a steering committee to oversee labour market research.
- Coordinate a regional body and regional advisory boards to support national and provincial collaboration.

Support localized job, skills and training support

- Pair top-down and bottom-up approaches from the federal and regional actors to develop accessible and inclusive policy.
- Foster networks for regional and industry partnerships.

Ensure the economic opportunity of Canada's future

- Provide industry and businesses with resources and tools that promote understanding of the net-zero jobs transition.
- Continue to refine and develop a “made-in-Canada” plan that incentivizes investment opportunities through targeted programming, strategic financing, tax credits, pollution pricing and regulated frameworks.



During the development of the net-zero workforce plan, it will also be important to prioritize Indigenous engagement and address barriers to entry across all industries; use strategic labour market research to understand the needs and challenges of leading industries; and leverage targeted stakeholder consultation to foster collaboration among academia, government and industry and to effectively implement workforce training and upskilling.

The net-zero workforce plan will empower Canada to supercharge its climate-mitigation efforts and position the country for future success. The Canadian Chamber looks forward to working with the federal government on advancing the net-zero workforce plan and setting Canada on a course to thrive in the net-zero economy.



SETTING THE CONTEXT FOR A NET-ZERO WORKFORCE PLAN



A federal net-zero workforce plan will help guide Canada through both domestic and foreign challenges that will arise as governments and businesses navigate the next major industrial and workforce transition.

The climate crisis waits for no one, and this year we have seen more storms, wildfires, droughts and other extreme weather-related events than ever before. More than **110+ countries are responding by committing to net-zero goals**, including Canada. Our national target is to reduce emissions by 40–45% by 2030, and to get to net-zero emissions by 2050. The corporate sector is not far behind, with **one-third of the world’s largest publicly traded companies adopting net-zero commitments**.

The transition to net-zero will not only help us stave off even worse impacts of climate change, but also presents a tremendous economic opportunity. New products and services will be needed, and it is projected that **\$100 trillion US in private capital will be invested in the global clean economy between now and 2050**.

Canada is uniquely poised to capitalize on these economic opportunities.² Our strengths include an abundance of natural resources, a skilled and talented workforce, significant targeted investments in clean energy and sustainable infrastructure, and ambitions to reach net-zero emissions by 2050. The question is: How do we build a workforce that can not only support this transition, but also ensure we can reap the economic benefits from it?

Bill C-50, also known as the *Sustainable Jobs Act*, supports the creation of sustainable jobs for workers and economic growth in a net-zero economy. This report focuses on the unique and timely opportunity associated with supporting a subset of sustainable jobs: net-zero jobs. The objective of this report is to outline the case for a federal net-zero workforce plan, which would set the course for building a critical mass of skilled workers who will not only thrive in a net-zero economy, but also help us build it.

Canada’s changing workforce

In recent years there has been a marked labour shortage in Canada in most sectors and industries. As of the second quarter of 2023, there were more than 800,000 vacant jobs in Canada. This was an incremental but promising decrease compared to

the second quarter of 2022, when job vacancies reached an all-time high of more than one million.³

Adding to these workforce challenges, the unemployment-to-job-vacancy ratio is at a historic low. The ratio of new hires to job vacancies has been trending downwards in the following five industries:⁴

- **Construction**
- **Manufacturing**
- **Retail trade**
- **Health care and social assistance**
- **Accommodation and food services**

The persistent job vacancies are due to a combination of factors, including the disparity between the wages being offered for open positions and the reservation wage¹ — particularly in retail trade and accommodation and food services.





Demographic challenges are also contributing to the workforce supply challenges. Canada's population is aging: as of 2022, just over one in five working Canadians is aged 55+.⁵ With a record number of Canadians retiring, labour shortages are exacerbated, and wages are being pushed higher. The labour shortage is also threatening to further drag down the country's productivity, as it increases the workload of existing employees and forces employers to hire less suitable candidates.

Adding to this challenging context is a decrease in birth rates, which are hitting historically low levels. Collectively, these realities are creating a tenuous

workforce environment, with increasing skills shortages and competition for qualified employees.

As part of the response to the labour shortage, Canada is looking to welcome hundreds of thousands of new residents. For example, in 2021 and 2022, Canada welcomed a total of 405,999 and 437,180 immigrants, respectively.⁶ According to the national Immigration Levels Plan, Canada will welcome 500,000 immigrants annually starting in 2026.⁷ More than 20% of these admissions must be classified as high-skilled workers.⁸ This aims not only to address the current labour shortage and stimulate the economy, but also to bring in the skills and labour in the long term that can fill jobs and careers emerging from Canada's response to the climate crisis.

Climate crisis threats and opportunities

The global climate crisis is linked to a range of present and future environmental, social, and economic risks. These risks include critical destruction of habitats, loss of biodiversity and natural resources, damaged infrastructure, and disrupted supply chains. In turn, these risks affect water, food, and health security, and disproportionately affect vulnerable communities. Such risks — as well as the opportunities associated with the transition to net-zero — are also influencing and shaping the skills, expertise, and resources needed in our future economy.

There is a tremendous economic and workforce-transition opportunity as Canada implements measures to mitigate these risks, reduce GHG emissions and build a net-zero economy. Further, Canadians support taking such measures. A recent poll revealed that 56% of Canadians believe that addressing climate change will lead to economic opportunities and job creation.⁹

In fact, the transition could create more than 30 million new jobs in clean energy alone by 2030, including new roles for existing workers in construction, as well as roles associated with manufacturing emissions-reducing products like electric vehicles and hyper-efficient appliances, and with developing and implementing innovative technologies such as hydrogen production.¹⁰

Here at home, jobs in the clean energy sector are anticipated to grow by 3.4% annually from 2020 to 2030 — nearly four times faster than the Canadian average of 0.9%. By 2030, there will be an estimated 559,400 jobs in the Canadian clean energy sector, including jobs associated with making energy-efficient home upgrades (e.g., insulation), manufacturing electric buses, and maintaining and operating wind farms.¹¹ While this research has highlighted the net-zero workforce development opportunities, ongoing quantitative analysis

Clean Energy Canada anticipates that jobs in the clean energy sector in Canada will grow by 3.4% annually to 2030 — nearly four times faster than the Canadian average.

will be required to better understand the potential impacts of the workforce transition on individuals and communities.

The role of a net-zero workforce plan

A federal net-zero workforce plan will not only help us build a resilient workforce, but also deliver on our net-zero goals and ambition. In addition, it will help us compete on the global stage. In August 2022, the United States Congress passed the *Inflation Reduction Act (IRA)*, representing the most significant climate legislation in U.S. history and \$370 billion in clean energy investment.¹² While Canada has responded with a suite of tax credits in the 2023 federal budget, the IRA will undoubtedly create added pressure on Canada's ability to attract and retain the workers required to advance our net-zero goals.



ADDRESSING WORKFORCE RISKS AND OPPORTUNITIES



The transition to a net-zero economy presents significant opportunities to create good, well-paying and long-lasting jobs to grow sustainable industries.

To address the threats posed by the labour shortage and the climate crisis, the Canadian government has undertaken policy action in several areas. These include:

- Introducing the Immigration Levels Plan, which aims to grow the economy by filling workforce gaps, reuniting families and offering asylum to refugees fleeing hardship abroad. The plan is also focused on ensuring 17–22% of admissions are highly skilled workers.¹³
- Establishing a net-zero target, which signals to governments and industry that they should prioritize mitigating the increasingly severe impacts associated with climate change. Between 2015 and 2025, an estimated \$25 billion of the national gross domestic product (GDP) will have been lost to climate change. That economic impact is expected to grow exponentially in future.¹⁴
- Establishing the *Canadian Net-Zero Emissions Accountability Act*, which includes Canada's legislation for 2050 net-zero commitments¹⁵ and also established the Net-Zero Advisory Body. The role of the Advisory Body is not only to report and advise on targets, plans and emissions reductions, but to identify key next steps that will grow the economy, improve affordability and ultimately achieve net-zero emissions.¹⁶

In 2019, Canada also committed to creating legislation to support workers and communities. This led to the introduction of the *Sustainable Jobs Act* (Bill C-50) in 2023, which serves as an interim measure until the full plan is released in 2025. Bill C-50 is a foundation on which to build the federal net-zero workforce plan. The Act focuses on 10 key action areas (listed below).

These action areas can be further developed to guide government and industry through the economic and workforce transition.¹⁷

- Establish the Sustainable Jobs Secretariat.
- Create a Sustainable Jobs Partnership Council.
- Develop economic strategies through the Regional Energy and Resource Tables.
- Introduce a sustainable jobs stream under the Union Training and Innovation Program.

- Advance funding for skills development toward sustainable jobs.
- Promote Indigenous-led solutions and the National Benefits-Sharing Framework.
- Improve labour market data collection, tracking and analysis.
- Motivate investors and draw in industry leadership to support workers.
- Collaborate and lead on the global stage.
- Establish legislation that ensures ongoing engagement and accountability.

Canadian Chamber members and other business leaders can play a key role in advocating for and informing the plan. Canada's business leaders have firsthand experience of the impacts of current labour trends, including in critical sectors such as mining and clean energy. They can also partner on the effective implementation of a federal net-zero workforce plan.

A study by Foresight Canada discovered a salient misconception that clean technology jobs require extensive specialized technical knowledge when often common-found skills can be implemented when applying a different lens.

IMPACT AND BENEFITS OF A NET-ZERO WORKFORCE PLAN



A comprehensive net-zero workforce plan will unlock massive economic potential. The following sections describe the benefits of leveraging Bill C-50 as the foundation for the plan.

A transformed workforce with opportunities to apply new knowledge and skills to climate solutions.

Leveraging the government's existing relationships with trade unions and industry leaders in both the energy and resource sectors will be key to reskilling and training the workforce in these industries. This is particularly important given these sectors are likely to experience more acute labour challenges given they will need to modernize operations to meet low-carbon requirements — and as new industries emerge within a net-zero economy.¹⁸

While trade unions have an important role in representing the interests of workers and advocating for decent jobs, they also have a unique role in building capacity through accessible training and upskilling. Efforts are already underway within trade unions to evaluate the scope and delivery of training programs for a variety of apprenticeships, and to incorporate net-zero skills and knowledge into career pathways.¹⁹

A private sector that is incentivized to contribute to physical and human capital efficiency strategies.

Many parts of the private sector have recognized the economic opportunity associated with addressing climate change, such as developing innovative technologies and business strategies that align with consumer value.²⁰ To support these efforts, the federal government has pledged financial support through the Low Carbon Economy Fund.²¹ This type of support aims to drive job creation, advance

climate goals, and signal that net-zero economic growth is a top priority.²² Moreover, tax credits linked to strong labour conditions will support the workforce transition.²³

For example, the Department of Finance is drafting a new clean technology investment tax credit that includes labour requirements.²⁴

Sustainable job creation and economic growth built on regional and sectoral approaches, acknowledging differentiated impacts of labour shortages and the transition to net-zero.

While many skills across sectors will be transferrable to new net-zero economic activity, the scale of economic transformation will not generate replacement opportunities on a job-per-job basis. Regional and sectoral input and priorities are needed to address the differentiated impacts in labour shortages and job losses that will be felt in particular sectors during the net-zero transition. A multi-pronged governance approach that includes a Sustainable Jobs Secretariat and a regional advisory body will enable effective collaboration, while also providing insights on unique regional and industry barriers.^{25 26}



Regional and industry experts informed the federal government's decisions on pathways to net-zero emissions, demonstrating the effectiveness of this type of approach.²⁷

New opportunities for historically under-represented groups to participate and thrive in Canada's economic future.

Bill C-50 aims to address the unique barriers to employment faced by historically marginalized peoples. To address these barriers, partnerships with unions and industry experts with experience in engaging under-represented groups in workforce training can be leveraged.²⁸ Canada is in a unique position to advance this priority as the shifting legal landscape²⁹ has centred around reconciliation, with industry partners creating pathways for economic reconciliation.³⁰ As Indigenous Peoples reclaim entitlements and operation of their land, there is tremendous opportunity within this process to address the history of economic and employment inequity through net-zero jobs and skills training. There is also an opportunity to recognize the economic opportunity for all within broader Indigenous reconciliation efforts.



HOW TO ADVANCE A NET-ZERO WORKFORCE PLAN



Currently in Canada, there are approximately 430,500 people employed within sectors that support the net-zero economy; this number is expected to reach 639,200 by 2030.

A recent study scanning 48 countries found that only one in eight workers has the skills relevant to a net-zero economy.³¹ This research also concluded that there is a growing demand for workers with net-zero skills, but this demand is not being met by today's labour force.

Currently in Canada there are approximately 430,500 people employed within the clean energy sector, and that is likely to grow to 639,000

people by 2030.³² Further, a report conducted by the Information and Communications Technology Council presented the total employment numbers from 2017 and projected employment numbers for 2030 as seen below.³³

Closing the gap between the number of roles and the skilled workers needed in the net-zero economy can be achieved by prioritizing the following areas in the federal net-zero workforce plan.

Clean Energy Subsector	2017 Employment	2030 Employment
Clean buildings	19,600	110,600
Clean transportation	171,350	363,700
Clean energy supply	59,800	111,000
Grid infrastructure	47,000	29,900

Indigenous engagement

Many parts of the private sector have recognized Bill C-50 prioritizes diversity and inclusivity in the net-zero workforce transition. In line with this priority, and distinct from related diversity, equity and inclusion (DEI) efforts, it is critical to establish a baseline of Indigenous representation in certain industries. In some of the industries with the most opportunities and others with the most challenges, there is a higher participation rate of Indigenous, Metis, Inuk and First Nations workers than in other

sectors. For example, in 2020, First Nations workers made up 14.6% of the mining sector³⁴ — three times higher than the all-industry average.³⁵

Addressing the barriers to entry to net-zero jobs will allow for a diverse set of skills and perspectives to be included during the workforce transition and align with Bill C-50's diversity and inclusion objectives.



support the net-zero skills transition is paramount. Leveraging public and stakeholder consultation, community workshops, focus groups and industry surveys can help address gaps and provide upskilling pathways. By fostering collaboration among academia, government and industry — each of whom has a unique role to play in the net-zero transition — training and upskilling gaps and opportunities can be addressed.³⁶

Lead with industry

A thorough understanding of the needs and challenges of Canadian industry is required to develop effective workforce policies. Strategic labour market research can identify which sectors are experiencing job loss or are at risk of being phased out in the net-zero transition. For example, increased collaboration between training institutions and industry leaders to pinpoint in-demand skills and the skillsets held by workers in the at-risk sectors will help identify overlaps and/or upskilling opportunities.

There is a frequent misconception that cleantech jobs require extensive specialized technical knowledge; however, commonly found skills can often be easily adapted to remain relevant and in demand. This misconception also exists when the term “net-zero job” is used, and underscores the need for targeted communication and education to build awareness among workers on their place in a net-zero economy.

Engage education and training institutions

Creating and developing educational materials to



WHERE DO WE GO FROM HERE: A CALL TO ACTION



As labour and net-zero skill shortages, climate change, demographic shifts and net-zero commitments converge, the most effective response will be aligning current policies and strategies under one vision for the public and private sectors. While developing this response will be a complex and long-term endeavor, we propose three key areas of focus within the federal net-zero workforce plan to ensure Bill C-50 serves as a useful platform.

Specify the mechanisms and processes of the Sustainable Jobs Secretariat.

- Appoint a steering committee to oversee sector labour market research.
- Coordinate a regional body and regional advisory boards to support national and provincial collaboration.
- Identify barriers for marginalized groups to participate in the transition.
- Leverage insights gained from the regional advisory boards to design adaptive training models for rural, remote and Indigenous communities.
- Support the development of tools to quantify and communicate evolving labour market trends.

Support localized job support.

- Pair top-down and bottom-up approaches from the federal and regional actors to develop accessible and inclusive policy.
- Foster networks for regional and industry partnerships.
- Reduce barriers for small businesses to participate in the transition.
- Work closely with educational institutions to deliver upskilling and micro-credential courses.
- Support educational institutions in adjusting their curricula to incorporate hands-on learning for students to increase job readiness.

Ensure the economic opportunity of Canada's energy future.

- Provide industry and businesses with educational resources that promote awareness and understanding of the net-zero jobs transition.
- Continue to refine and develop a “made-in-Canada” plan that incentivizes net-zero investment opportunities through targeted programming, strategic financing, tax credits, pollution pricing and regulated frameworks.
- Focus on labour mobility and attraction measures, particularly for sectors that will face greater labour impacts, by:
 - » Eliminating intra-provincial barriers for mobility of skilled workers.
 - » Considering enhancing policies that attract international talent, such as:
 - A. Streamlined immigration processes as well as considerations to optimize the Temporary Foreign Workers Program, which provides skilled workers to respond to critical skill gaps across sectors.
 - B. Enhanced recognition of foreign credentials.
 - C. International collaboration agreements to attract international expertise.
- Work with industry academia and other training institutions to ensure training programs, degrees and certificates are aligned with the skills needed to support the projected employment growth spurred by net-zero investments.

Bill C-50 provides the foundation for a net-zero workforce plan that will guide, support and empower Canada's workforce to achieve the transition to a net-zero future; provide industry with the certainty needed to invest in net-zero economic opportunities; and position Canada as a superpower in the clean economy.

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