

June 2, 2016

Dear Minister McKenna,

**RE: Policy Recommendations from Canada's Solar and Wind Energy Industries with Respect to Canada's Approach to Climate Change**

The Canadian Wind Energy Association (CanWEA) and the Canadian Solar Industries Association (CanSIA) (referred to throughout this document as “we”) are pleased to take this opportunity to offer our recommendations on the actions Canada should take to reduce greenhouse gas (GHG) emissions and address climate change in a manner consistent with its obligations under the international climate change agreement negotiated in Paris at COP 21.

The Federal Government has stated that Canada will work to reduce its GHG emissions by a minimum of 30% from 2005 levels by 2030. This is an ambitious target, but it is consistent with the level of effort required to meet the Paris Agreement commitment to hold the increase in average global temperatures to no more than 2 degrees from pre-industrial levels.

In fact, climate change science tells us that successfully meeting the Paris commitment will require far greater emission reductions in the longer term. This has already been recognized by the Governments of Quebec and Ontario which have made commitments to reduce GHG emissions by a minimum of 80% from 1990 levels by 2050.

Numerous analyses (e.g., UN Deep Decarbonization Project, Trottier Energy Futures Project) have demonstrated that **GHG emission reductions of this scale can only be achieved through the decarbonization of the electricity system and the subsequent use of that electricity to replace fossil fuels across a wide variety of end uses, including transportation, buildings and industrial processes. Accordingly, we believe a focus on zero carbon electricity production, increased electrification and fuel-switching to renewable resources must be at the core of Canada's climate change strategy.**

Fortunately, Canada is in a strong position to demonstrate global leadership in this area. We have a huge renewable energy advantage as more than 80% of our electricity production is already carbon-free. Furthermore, we are extremely favourably situated with huge further untapped renewable energy resources.

Our recommendations are detailed in the coming pages and can be summarized as follows:

1. Ensure there is an economy-wide price on carbon throughout Canada by 2020
2. Decarbonize Canada's electricity supply
  - 2.1 Aim for a zero-emissions electricity supply by 2050
  - 2.2 Reduce fossil fuel use in electricity generation
    - 2.2.1 Significantly reduce pollution from coal-fired electricity generation in Canada beyond 2030
    - 2.2.2 Provide electricity sector investors with visibility on the role of natural gas as a transition fuel
3. Encourage the deployment of renewable energy
  - 3.1 Enhance the tax treatment of renewable energy projects
  - 3.2 Introduce Green Bonds for project debt financing
  - 3.3 Use infrastructure investment to enable more renewable energy in Canada
  - 3.4 Displace diesel in remote and northern communities with renewable energy
  - 3.5 Produce regional / provincial studies on the transition to a low carbon grid
  - 3.6 Convene a system operation collaborative on renewable energy deployment
4. Increase electrification and fuel-switching to renewable resources in buildings, transportation and industry
  - 4.1 Lead by example in government procurement, building stock and vehicle fleets
  - 4.2 Encourage electrification and fuel-switching to renewable resources in the buildings sector
  - 4.3 Encourage electrification of the transportation sector
  - 4.4 Encourage fuel-switching and electrification of industrial processes
5. Develop and implement a Canadian renewable electricity export strategy

We hope that this submission will be of assistance to the Federal / Provincial / Territorial Working Groups established at the February 2016 First Ministers Meeting who are now working to identify climate change policy options for the consideration of their respective governments. Please consider this an initial submission. It is our intention to subsequently provide additional and more detailed information on our recommendations to individual working groups, as appropriate.

Thank you for your leadership on climate change and for your consideration of our submission.

## **1. Ensure there is an economy-wide price on carbon throughout Canada by 2020**

We believe that carbon should be priced in every Canadian province and territory. Carbon pricing is widely considered to be the most economically efficient policy to ensure economy-wide GHG emission reductions. A meaningful carbon price will help “level the playing field” between energy options that emit GHGs and those that do not.

To be effective, any price on carbon will need to be meaningfully large, transparent and escalate in a predictable manner. Revenues should be near-neutral so that budgets are not balanced on the basis of carbon price income, with a portion of revenue dedicated to investments in additional GHG emissions displacement.

We recognize that in the absence of clear leadership on carbon pricing over the last decade, some provinces have developed their own initiatives in pricing carbon. In addition to ensuring that all provinces and territories put a price on carbon, the Federal government should aim to build coherence and linkages among the different systems established at the provincial level.

**We recommend that the Federal Government lead and convene the provinces and territories to ensure that by no later than 2020, each has:**

- **Implemented a price on carbon;**
- **Committed to a long-term transparent schedule of increases in the carbon price or strengthening of the regulatory frameworks that determine the price; and**
- **Allocated a minimum percentage of revenues collected to be invested in GHG reducing initiatives including renewable energy projects (i.e. wind and solar energy) and projects that enable higher penetrations of renewable energy projects (i.e. grid modernization, smart-grid and storage).**

**Carbon pricing is a fundamental cornerstone of any climate change policy, but we are unaware of any jurisdiction that has used carbon pricing as the primary tool to enable the deployment of increased renewable energy. As a result, additional measures are required.**

## 2. Decarbonize Canada's electricity supply

In order to reach the Paris Agreement goal of keeping global temperatures "well below" 2°C compared to pre-industrial times, while striving to limit them even more, to 1.5°C, studies have consistently demonstrated that Canada will have to essentially decarbonize its electricity sector by 2050.

Following significant progress in Canada's electricity system during the past decade, annual electricity sector emissions have decreased by 34% since 2005 (now standing at approximately 80 Mt per year). Much of the progress made in the electricity sector is due to the phase-out of coal-fired electricity in Ontario and a significant increase in electricity generation from renewable energy sources in Ontario and across the country.

A number of provinces have adopted targets that would further reduce emissions from the electricity sector. If the current policies continue, and the developing policies are implemented as announced, the Canadian electricity sector has the potential to further reduce GHG emissions by 80% from current levels by 2050<sup>1</sup>. It must be noted that this significant decarbonization outcome for Canadian electricity production is not inevitable and will require governments across Canada to fully implement their currently proposed policies.

While it is essential that these proposed policies are successfully implemented, we believe that Canada can and must go further to capitalize on its tremendous renewable energy resources to both maximize the decarbonisation of Canada's electricity system and the replacement of fossil fuels in other energy end uses through the use of decarbonized electricity to increase electrification across the economy.

### 2.1 Aim for a zero-emissions electricity supply by 2050

Setting targets is the best way to measure our success and demonstrate Canada's leadership. In June 2015, the leaders of the G7 agreed to phase out the use of fossil fuels by 2100. The first priority for eliminating fossil fuel use is the electricity sector, because that non-emitting electricity can then be used to further reduce fossil fuel use in other sectors.

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<sup>1</sup> Sawyer and Bataille (2016) "Still Minding the Gap: An Assessment of Canada's GHG Reduction Obligations"

Today, Canada meets more than 80% of our annual electricity needs from non-emitting electricity (65% from renewable resources). We believe that Canada must continue to take advantage of its huge untapped renewable electricity resources and demonstrate our global leadership position by striving to have all of its electricity produced from non-emitting sources. The establishment of long-term targets for zero-emissions electricity will enable investment and power system planning decisions to adapt and avoid unintended consequences of future policies such as the potential stranding of fossil fuel based generation.

**Accordingly, we believe that the Federal Government should seek to collaborate with provincial and territorial governments to define and agree upon national targets for non-emitting electricity generation that move Canada towards a zero-emissions electricity supply by 2050. The previous federal government had adopted a target that 90% of Canada's electricity supply should be non-emitting by 2020. While inadequate action to support that objective means that it is no longer achievable, we believe Canada should establish targets that identify the years in which Canada will see 90% and then 95% of its electricity supply met through zero-emissions generation prior to 2050.**

We note that the differences in the electricity supply mix in different regions of Canada mean that the impact of such commitments will vary from region to region and greater interjurisdictional collaboration can potentially play a significant role in facilitating their achievement.

## **2.2 Reduce fossil fuel use in electricity generation**

### **2.2.1 Significantly reduce pollution from coal-fired electricity generation in Canada beyond 2030**

In acknowledgement of the significant emissions intensity of conventional electricity production from coal, the Federal Government has already taken steps to regulate and eliminate GHG emissions from coal-fired electricity generation. We believe the Federal Government should consider accelerating its schedule for GHG emission reductions from coal-fired generation.

Provinces like Ontario and Alberta, have demonstrated a willingness to move much more quickly to remove coal-fired electricity generation from their supply-mixes.<sup>2,3</sup> In light of Alberta's commitment to eliminate all pollution

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<sup>2</sup> Government of Ontario (2015) "Bill 138, Ending Coal for Cleaner Air Act"

<sup>3</sup> Government of Alberta (2015) "Climate Leadership Plan"

from coal-fired generation by 2030, only four coal-fired generating stations representing 1,059 MW of capacity would remain operating in Canada and producing GHG emissions and other air pollutants beyond that date.

**We believe the Federal Government must take steps to significantly reduce pollution from any remaining coal-fired electricity generation in Canada beyond 2030.**

### **2.2.2 Provide electricity sector investors with visibility on the role of natural gas as a transition fuel**

Environment and Climate Change Canada has already regulated GHG emissions from coal-fired electricity to a maximum emission rate of 420 kg/MWh for any units that reach a maximum of 50 years of life, or any new units built after 2015<sup>4</sup> (emissions from existing units are in the ~1,000 kg/MWh range).

The federal government is likely to introduce natural gas regulations that would be equivalent to the 420 kg/MWh limit. This is, however, close to business as usual for any modern gas plant operating at commercial efficiencies, and will not effectively incent significant GHG emission reductions from natural gas-fired electricity generation over time.

Natural gas is correctly described as a transition fuel that can help phase-out coal and facilitate the integration of renewable energy sources into the electricity grid. However, as a transition fuel that emits GHGs, it does not represent a sustainable solution to our climate change challenge. While natural gas has a role to play in the transition of Canada's electricity sector, we must ultimately transition to a world where electricity is overwhelmingly produced from non-emitting sources.

Given that reality, investors in GHG emitting natural gas generation facilities need clear signals on the future evolution of the electricity grid to inform their investment decisions. The provision of such signals will lessen the probability that investors will make poor investment choices that lead to "stranded assets" (i.e. assets that have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities due to changing circumstances such as unforeseen policy or regulatory changes).

**We recommend establishing federal GHG regulations for electricity generated by natural-gas that become increasingly stringent such that these plants will be required to produce significantly fewer greenhouse gas**

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<sup>4</sup> Government of Canada (2012) "Reduction of Carbon Dioxide Emissions from Coal-Fired Generation of Electricity Regulations (SOR/2012-167)"

**emissions by 2050, while providing flexibility in compliance through mechanisms such as allowing the use of offsets created by new renewable energy projects.**

We recognize that the timing and stringency of such regulations will need to be designed in such a way to recognize and reflect the unique characteristics that differentiate stand-alone natural gas generation and natural gas generation produced through co-generation.

This approach would ensure that natural gas is an enabling technology for more renewable energy and not a barrier to it. Furthermore, it would incent continued innovation that could reduce and potentially eliminate GHG emissions from natural gas-fired electricity generation. Finally, it would also ensure long-term and permanent GHG reductions as more carbon-free technologies like wind and solar are integrated into electricity grids across the country. Massachusetts has already pioneered such an approach.

### **3. Encourage the deployment of renewable energy**

Canada's wind and solar energy resources are world-class. This is especially the case in the provinces of Alberta and Saskatchewan where the reduction of fossil-fuel use in electricity generation presents the most significant near-term opportunity for emissions reductions in the electricity sector.

Carbon pricing, long-term national targets for non-emitting electricity generation and complementary regulations on GHG emissions from electricity generation will all lay the framework for a transition to a cleaner energy supply. However, additional measures will be required to ensure that investment in renewable energy generation takes place at the required rate as we aim to decarbonize our electricity system by 2050.

We recommend that in support of the Federal Government's renewable electricity ambitions<sup>5</sup>, a strategy to encourage the deployment of renewable energy is developed with six key areas of activity:

- Tax policy;
- Green bonds;
- Infrastructure investment;

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<sup>5</sup> "Work closely with provinces and territories to: develop a Canadian Energy Strategy to protect Canada's energy security; encourage energy conservation; and bring cleaner, renewable energy onto a smarter electricity grid." Prime Minister Trudeau (2015) "Minster of Natural Resources Mandate Letter"

- Investment in northern and remote communities;
- Production of regional / provincial studies on the transition to a low carbon grid; and
- Supporting knowledge sharing amongst transmission and distribution system operators.

### 3.1 Enhance the tax treatment of renewable energy projects

Tax policy is a key enabler for renewable energy projects globally and has been successful in developing Canada's oil, gas and mining sectors. Canada's tax code currently offers a limited number of incentives to offset development expenses and capital costs for renewable energy projects. However, these incentives are weak in comparison to those historically received by other Canadian energy sectors and our major trading partners (especially the United States). In addition, they are designed to significantly limit the types of taxpayer who can benefit from them and no longer reflect the investor profile and asset owners of current day renewable energy projects which include individual households to small businesses to major corporations and everyone in between.

To support the Federal Government's objective to improve the attractiveness and competitiveness of Canada's tax treatment of renewable energies<sup>6,7</sup>, particularly in comparison to the United States, we recommend the Federal Government initiate a collaborative consultation process with industry to consider measures such as:

- An Investment Tax Credit on Capital Costs for personal and corporate taxpayers who invest in renewable energy projects;
- An Investment Tax Credit on development expenses for eligible Canadian Renewable and Conservation Expense (CRCE) expenses;
- Exempting all corporate taxpayers from the "Specified Energy Property" rules;

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<sup>6</sup> "Work with the Minister of Natural Resources to enhance existing tax measures to generate more clean technology investments and work with the provinces and territories to make Canada's tax system highly competitive for investments in the research, development, and manufacturing of clean technology." – Prime Minister Trudeau (2015) "Minster of Finance Mandate Letter"

<sup>7</sup> "Work with the Minister of Finance to explore opportunities to enhance existing tax measures to generate more clean technology investments, and engage with provinces and territories to make Canada the world's most competitive tax jurisdiction for investments in the research, development, and manufacturing of clean technology." – Prime Minister Trudeau (2015) "Minster of Natural Resources Mandate Letter"

- Granting legislative exemption from the application of the tax shelter rules and the rules that prevent the benefit of the tax incentives from being allocated disproportionately between the taxable and tax exempt partners;
- Exempting taxpayers who invest in renewable project partnerships from the application of the at-risk rules and the negative ACB rules;
- Legislative amendments to permit transferees to claim amounts paid to non-arm's length parties for qualifying assets as CRCE and an exception from rules that deny the deduction of expenses paid with shares or partnership interests
- Treatment of solar and wind energy assets under Class 43.2:
  - Receive an extension of accelerated depreciation provisions beyond the current 2020 expiry date;
  - Be exempted from the "Half-Year Rule"; and
  - Be depreciated using a 50% Straight Line approach.

A detailed overview and set of recommendations on tax policy will be provided later under separate cover.

### 3.2 Introduce Green Bonds for project debt financing

The Federal Government has committed to the introduction of Green Bonds<sup>8,9</sup> to reduce the cost of capital for the development of projects, including renewable energy projects, as their capital intensive nature can be commercially challenging. A government backed financing option for renewable energy projects that would be available for up to 50% of project debt financing and administered by commercial lenders would address this challenge. Green Bonds would be capitalized by ordinary Canadians who choose to invest in a relatively low, but

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<sup>8</sup> "To support both large- and community-scale renewable energy projects, the new Canada Infrastructure Bank will issue Green Bonds to fund projects like electric vehicle charging stations and networks, transmission lines for renewable energy, building retrofits, and clean power storage" - The Liberal Party of Canada (2015) "Real Change: A New Plan for a Strong Middle Class"

<sup>9</sup> "Green bonds are a way to finance projects that support important environmental objectives. They are also a way for investors to know that their money will be used in an environmentally sound manner. In December 2015, Export Development Canada (EDC), a federal Crown corporation, issued a green bond of US\$300 million. This builds on its successful Green Bond Framework and previous US\$300 million issue in 2014. These proceeds are being used to support eligible transactions in the following categories: renewable energy, industrial process improvements, recycling and recovery, biofuels and bioenergy, waste and water management, alternative energy and public ground transportation. EDC is committed to becoming a regular issuer in the green bond market." – Government of Canada (2016) "Budget 2016: Growing the Middle Class."

guaranteed rate of return. The bonds are used to provide both accessible, as well as relatively low-interest capital that would be dedicated to green energy projects. This would help overcome financing barriers, as well as provide lower delivered energy costs to consumers by reducing debt servicing costs. Bonds are still expected to deliver a modest return and so at least 50% of debt would be required to be leveraged from traditional sources to ensure projects are sound investments. Successful precedents for green bonds exist in Europe and have recently been pioneered in Ontario with respect to transit.

### **3.3 Use infrastructure investment to enable more renewable energy in Canada**

The Federal Government set aside significant funding in its last Budget to support investment in green infrastructure. There are many infrastructure investments that could be made to encourage the deployment of the renewable energy projects required to enable Canada to meet long-term goals for zero-emission generation including transmission interties, smart-grid, storage etc. In addition to providing government support for such initiatives, efforts should be made to incent and encourage private sector investment in these areas.

It is our understanding the Federal Government will be holding consultations at a later date on the criteria to be used to inform the allocation of funding under a green infrastructure program. We plan to engage in such consultations and provide recommendations for criteria that can help ensure that projects that help to enable and support more renewable energy in Canada as well as increased electrification within the Canadian economy will be able to secure support under this program.

### **3.4 Displace diesel in remote and northern communities with renewable energy**

Diesel provides a large percentage of the heat and power used in Canada's almost 300 remote and off-grid Northern and Aboriginal communities (home to more than 200,000 people, more than half of which are Aboriginal communities).<sup>10</sup> Diesel use in these communities is estimated to be 215 million litres annually which contributes approximately 600 kilotons of GHG emissions.<sup>11</sup> Depending on fossil fuels also carries inherent vulnerability due to high costs, price volatility, the potential for supply disruptions and health impacts.

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<sup>10</sup> Anne McIlroy, Remote Control, Corporate Knights, May 24, 2016, <http://www.corporateknights.com/channels/utilities-energy/remote-control-14640696/>.

<sup>11</sup> Mariano Arriaga, Claudio A. Cañizares, and Mehrdad Kazerani, Northern Lights, IEEE Power and Energy Magazine, March 24, 2016, [https://ece.uwaterloo.ca/~ccanizar/papers/mariano\\_PES.pdf](https://ece.uwaterloo.ca/~ccanizar/papers/mariano_PES.pdf). Pg. 13.

Distributed and local energy resources such as self-standing micro-grids, including renewables, can be an important part of meeting the need for energy in these communities while helping to fulfill community-specific requirements. Making this shift also continues the development of innovative approaches to meeting the challenge of delivering sustainable energy solutions in remote environments.<sup>12</sup>

In order to affect this change, the Canadian federal and provincial governments must transition policy and program approaches to a point where technology and financing strategies can be easily replicated to support multiple projects at a time.<sup>13</sup> We recommend that a long term program of 10 years or more is introduced with pricing that reflects more than just the price of diesel offset and with effective provisions for capacity building.

We will submit a detailed brief on this topic under separate cover at a future date.

### **3.5 Produce regional / provincial studies on the transition to a low carbon grid**

The federal government allocated funding in the 2016 Federal Budget to support regional electricity planning / analysis. This was a positive initiative that recognized the potential benefits of regional and provincial approaches to GHG emission reduction in the electricity sector.

We believe the federal government should build on this initiative by offering to contribute funding to the development of low carbon grid studies similar to that undertaken in California in 2015 that provided a strong analytical foundation that allowed California to significantly increase its own renewable energy goals. To be effective, such a study should engage, and be supported by, a broad range of stakeholders including: system operators, transmission and distribution system operators, renewable energy generators, energy efficiency service providers, storage technology providers, etc. Such studies should create roadmaps (with timelines) that outline what needs to be done to move Canada towards its long-term zero-emission electricity generation objectives and should include details on costs and cost savings, economic development opportunities, operational considerations, etc.

We will submit a detailed brief on this topic under separate cover at a future date.

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<sup>12</sup> Ibid.

<sup>13</sup> Lumos Energy, Diesel to Renewables. How do we get there? March 17, 2016, <http://indigenouscleanenergy.com/diesel-to-renewables-how-do-we-get-there/>.

### 3.6 Convene a system operation collaborative on renewable energy deployment

Fundamentally transforming Canada's electricity production so that it becomes fossil fuel free will pose challenges as well as opportunities. The key organizations that will be asked to successfully manage these challenges are Canada's provincial electricity transmission and distribution system operators.

System operators have already been dealing with reductions in coal-fired generation and increased production from variable renewable generation and new distributed level generation. For the most part, system operators have seen these as challenges and not barriers, and have worked hard to develop and implement solutions. Unfortunately, given the constitutional division of powers and the current structure of Canada's electricity grids, most system operators have worked on these challenges independently – with many organizations working on similar challenges at the same time. This leads to duplication of effort and a failure to consider the potential benefits of work in other jurisdictions or interjurisdictional cooperation.

**CanWEA and CanSIA strongly urge the Federal Government to reach out to transmission and distribution system operators with an offer to create and contribute operating and research funding to a new forum that would enable system operators to come together on a regular basis to dialogue on issues of common concern with respect to increasing the deployment of renewable energy on their systems and to identify and undertake joint research and analysis on agreed priorities to help inform potential solutions to such issues.**

We will submit a detailed brief on this topic under separate cover at a future date.

## 4. Increase electrification and fuel-switching to renewable resources in buildings, transportation and industry

We support strategies and programs to electrify the buildings, transportation and industrial processes sectors<sup>14</sup>. For such actions to have maximum impact on GHG emissions, it is critical that they encourage and facilitate the use of decarbonized electricity.

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<sup>14</sup> Please view submission from the Canadian Council on Renewable Electricity under separate cover.

The Canadian Council on Renewable Electricity (CanCORE) in which we are founding Members have made a submission under separate cover with emphasis on the importance of electrification. We have also participated in a collaborative exercise seeking to develop a common perspective on electrification with representatives from the transportation and building sectors that will be jointly submitted by a number of organizations through Clean Energy Canada. We refer you to these submissions for a comprehensive set of recommendations but also wish to note a number of important issues.

#### **4.1 Lead by Example in Government Procurement, Building Stock and Vehicle Fleets**

The federal government alone owns or occupies greater than 24 million square metres of floor space, and operates a significant fleet of vehicles providing ample opportunity to model the pathway to deep emissions reductions. Governments can use their own facilities and fleets to demonstrate leadership and long-term commitment to a low carbon vision and stimulate the marketplace.

- Large power consumers can, where possible, enter directly into power purchase agreements with renewable energy providers to secure 100% of their electricity from renewable sources.
- Begin constructing very low-carbon buildings effective in 2017 that demonstrate innovative technologies such as renewable electricity, heating or cooling, storage and electric vehicle charging infrastructure.
- Upgrade public buildings to demonstrate how innovative technologies such as renewable electricity, heating or cooling, storage and electric vehicle charging infrastructure can be integrated into deep energy retrofits.
- Maximize the adoption of electric vehicles (e.g., personal transportation) in the government's fleet

#### **4.2 Encourage Electrification and Fuel-Switching to Renewable Resources in the Buildings Sector**

The establishment of GHG emission standards for buildings will enable and encourage increased electrification and fuel-switching in Canada's building stock. We believe a minimum environmental performance standard introduced in the National Building Code that uses a metric of GHG emissions per unit of floor area for compliance that trends toward zero-carbon at a known future date would ensure that building designers and specifiers must make environmentally conscious decisions and ensure that new buildings are powered, heated and cooled by energy from zero-carbon sources.

As part of the transition toward zero-carbon buildings, requirements should be put in place to ensure all new buildings and major renovations incorporate low cost structural, electrical and design requirements that enable use of technologies such as solar electricity generation, heating and cooling, electric vehicles, etc. CanSIA will be bringing forward a detailed position paper on “Solar Ready” in residential and non-residential buildings.

#### **4.3 Encourage electrification of the transportation sector**

The electrification of personal transportation, via electric cars, is a significant opportunity we can start to realize today, as the technology is ready and increasingly economic. To increase the uptake of electric vehicles (EVs) in Canada, governments should:

- Provide incentives for the purchase of EVs;
- Make strategic investments in charging infrastructure; and
- Require a certain percentage of car sales to be zero-emission vehicles.

#### **4.4 Encourage fuel-switching and electrification of industrial processes**

While fuel-switching and electrification of industrial processes offers significant emission reduction potential, the technological solutions are less advanced in most heavy industry applications than they are in the buildings or personal transportation sectors. Thus, Canada’s governments will need to consider earlier-stage research in the electrification of industrial processes along with deployment policies. That suite of policies could include:

- Creating a new research institution for zero-carbon industrial processes;
- Initiating trade promotion efforts to attract businesses to Canada to take advantage of our clean electricity supply; and
- Setting energy performance standards for heavy industry while offering incentives to support technology changeover and domestic innovation.

### **5. Develop and implement a Canadian renewable electricity export strategy**

Canada has tremendous renewable electricity resources. From wind to sun to water, we have more than enough to sustain our domestic needs, decarbonize our electricity grid and electrify our economy while helping our American neighbours in their own transition towards a low carbon economy.

Canada borders one of the largest energy consuming countries in the world and we should ensure we capitalize on the opportunities this offers Canada. While more than 80% of Canada's electricity production is zero-carbon, the situation is very different south of the border. The United States' electricity sector produces 30% of all GHG emissions in the country. Over 67% of all of the electricity generated in the U.S. comes from fossil fuels.

The United States is taking significant actions to reduce GHG emissions from its electricity sector. Many of those actions are undertaken at the state level where we see an important number of states adopting renewable electricity targets through clean energy standards (CES) or renewable portfolio standards (RPS). The U.S. Environmental Protection Agency (EPA) recently released its Clean Power Plan (CPP) which aims at cutting carbon pollution from the power sector by 30% below 2005 level. The CPP is flexible, reflecting the particular needs of different states. More importantly for Canada, the CPP allows Canadian clean electricity imports to help states comply with the plan.

Canada should develop a Renewable Energy Export Strategy for both U.S. state and U.S. federal initiatives. Federal, provincial and territorial governments should prioritize the development of a renewable energy export strategy. Key components of such a strategy should include:

- Educating Canadians about the country's renewable energy potential and how exporting some of that potential is good for Canada and North America, both environmentally and economically;
- Working with governments on the development of a North American clean electricity strategy, including streamlined permitting processes for cross-border transmission projects;
- Developing a broader international strategy to address policy barriers and increase the export of renewable electricity technologies, services and products; and
- Support the provinces/utilities in their efforts to access the U.S. markets by actively promoting Canadian renewable electricity exports through its diplomatic and business channels.

We will continue to do research on specific measures the Federal government can implement in supporting the objective to enhance Canada's renewable electricity export capability.

Best regards,



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John Gorman  
President & CEO  
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