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Unlocking Canada's Wind and Solar Energy Potential

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There is great potential for solar and wind energy to provide Canada with economic, environmental, and geographic benefits. Economically, the development of these sectors would increase job growth, is government incentivized, and would decrease the costs of climate-change-related consequences. Environmentally, it would benefit both the global and Canadian communities in the fight against climate change. Geographically, Canada is in a formidable position to advance solar and wind energy production. It is critical that Canada advance its energy sector by using renewables, such as wind and solar power. Quite simply, the benefits outweigh the costs.

The issue of humanity's impact on the environment has recently been on the conscience of many countries as human activity continues to change Earth's conditions. Canada is looking into ways to sustainably protect its vast quantities of wildlife and natural resources. Solar and wind power are already in use within

Canada and provide energy to many communities. The use of these forms of energy production has yielded mostly positive results, but the question remains whether solar and wind energy are worth the investment.

There is a cost to building and maintaining energy infrastructure, which is an obstacle often mentioned by critics, but from both a long- and short-term perspective, wind and solar energy provide considerable economic compensation for these costs. First, there is a growing market for renewable energy, including solar and wind, that provides millions of jobs worldwide and has the potential to create many more skilled employment opportunities in the future. According to the [United Nations Framework Convention on Climate Change](#), the renewable energy sector employs 8.1 million people worldwide, who then give back to the economy through stronger purchasing power, taxes, and lower unemployment, among other things. It would be beneficial for Canada to further expand its solar and

wind sectors to take advantage of this opportunity to improve the economy while also curbing unemployment.

There are growing incentives within Canada to switch to renewable energy sources. Policies to make clean energy production more economically feasible include government subsidies, grants, and carbon taxes. Carbon taxes are a way for the government to tax businesses, industries, and individuals based on their emissions output. This penalizes industries that create large quantities of pollutants and encourages others to reduce their emissions output in order to pay less. Despite what many opponents of the carbon tax will say, “models show that the tax has had negligible effects on the aggregate economy” in British Columbia, where a carbon tax has existed for over a decade (Murray & Rivers, 2015). This shows a growing trend across Canada – that carbon taxes are here to stay as there is growing concern over climate change and pollution. A good way to avoid the carbon tax is to reduce emissions by converting to solar or wind energy production.

It is evident that developing wind and solar energy is a smart investment for Canadians as carbon taxes, subsidies, and grants are all making it increasingly economically viable to protect the environment. It is also apparent that human activity, such as pollutant energy

production, has disastrous consequences for both the environment and humanity. The phenomenon commonly known as climate change affects everyone – to different degrees – and is a large economic burden for many governments, including in Canada. These burdens affect expenses from infrastructure to disaster relief, sparing no country. It is economically sensible for Canadians to invest in solar and wind power to protect against the monetary costs of climate change.

Obvious benefits from wind and solar energy are rooted in preserving the environment. The global community has been struggling to combat climate change through methods such as the previously mentioned carbon tax, subsidizing electric car production, improved transportation networks, and grants for renewable energy production. These are all ways that governments are fighting real threats to millions of people worldwide. Climate change is not a problem that has distinct boundaries. This gives Canada even more incentive to become a leader in protecting the international community by replacing pollutant forms of energy production with renewables.

Although it may seem like the impacts of climate change are not affecting Canada directly, this is far from the truth. Canada is famous for its vast boreal ecosystem that covers the northernmost part of the

country, from the border with Alaska to Labrador on the Atlantic. This ecosystem, essential to many Canadian communities, is under threat. As data indicates, “[t]he annual frequency of fire spread days is modelled to increase 35–400 % by 2050 with the greatest absolute increases occurring in the Boreal Plains of Alberta and Saskatchewan” (Wang et al., 2015). This is not the exception, but instead a trend across Canada.

It is important to consider Canada’s geographic advantage in terms of being able to efficiently produce renewable energy. Canada is the second-largest country by size and is characterized by its substantial quantity of natural resources, as well as biodiversity that is ideal for eco-friendly energy production. The production of wind energy can be broken down into two distinct groups: onshore and offshore. Canada has great potential for both to function efficiently, but there is a greater interest in onshore production, since offshore has many additional factors to consider, such as trade routes, marine habitats, and higher costs. Canada has an area for potential prime wind-energy development spanning 240,000 km², capable of generating over 200% of its 2010 energy needs (Barrington-Leigh & Ouliaris, 2017).

Solar energy also has abundant potential. Canada experiences four

seasons and has a variety of environments that can sustain solar development. It is even possible, in geographic terms, to be solely dependent on solar energy by devoting approximately 125,000 km² to solar farming (Barrington-Leigh & Ouliaris, 2017). Canada has the potential to be a leader in solar and wind energy production thanks to its formidable climate, large land mass, and diverse environment.

The production of Canada's energy through solar and wind sources has potential for success economically, environmentally, and geographically. The evidence in support of this transition is convincing, and it is time that Canada step forward as a leader for a sustainable and clean future of energy.

References

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