

Canada Needs Smart,
Technology Centered 21st
Century Industrial Policy for
Survival of the 'Energy' Industry

By: Chris Lomond

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Recommendation 1: That the government implement a Tax Credit System for 'Clean Tech' energy projects similar to the Renewable Energy ITC system in the United States.

Recommendation 2: That the government provide funding in the amount of at least \$10 Billion for various electrification programs that span across sectors, industries, and across the private and public sector.

Recommendation 3: That significant spending towards re-training programs in 21st century professions are provided for those who will be disrupted by the technological disruption taking place across industries

Body of Submission

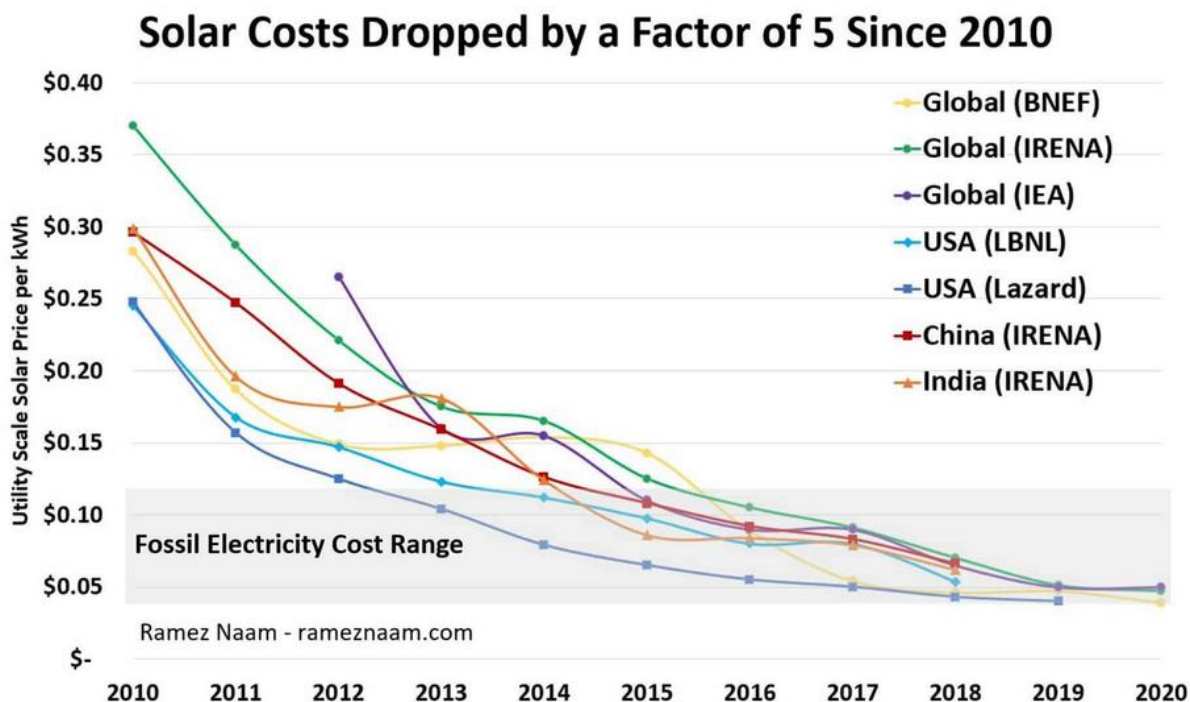
About the Author: Chris Lomond completed a double degree with Computer Science at the University of Waterloo and Bachelors in Business Administration from Wilfrid Laurier University in 2015. He previously worked at Microsoft Corporation's headquarters as a Product Manager, but now works at one of Canada's leading software company's in the Solar space which makes O&M software. He left Microsoft because he wanted to learn more about the trends in growth in Solar, and to use this contribute towards solving climate change.

Summary: The Canadian Government should, as a part of all industrial, energy and technology policy decisions **seriously consider and be aware of the absolutely, astronomical decreases in primary energy costs that are approaching us. Not keeping this in the forefront of your mind, will result in FAILED policy.**

Too long, didn't read: Canada needs to re-enter the solar and wind technology and development game in a serious way, OR WE WILL LOSE

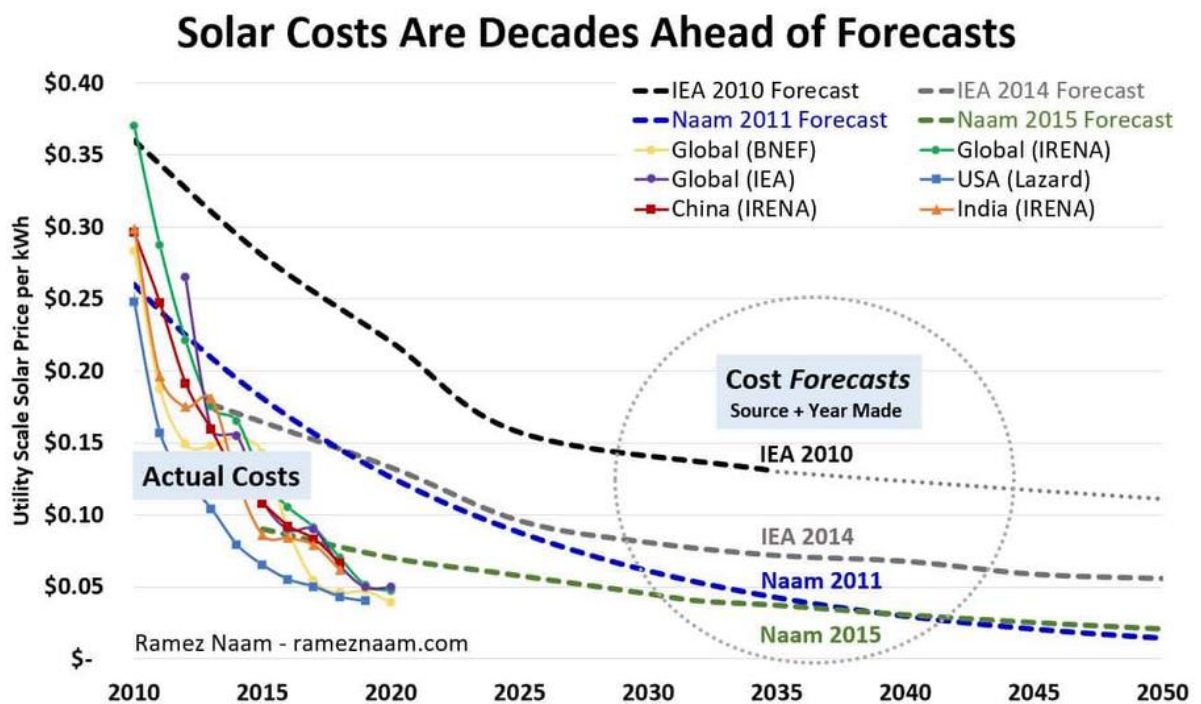
Context: Did you know?

The costs of energy from installed solar have decreased between 80-90% in the last 10 years?



Source: [Solar's Future is Insanely Cheap](#)

Additionally, new Solar and Wind [additions are cost competitive in much of the world today](#), and their costs will decrease overtime, and everything is point towards that this will occur at an **accelerated rate**.



BUT, will costs keep declining?

YES! But why?

The cost decreases of solar, wind and li-ion battery storage follow the same 'technology learning curves' of all manufactured goods – no different than 'Moore's Law' for microchips.

The intuition – this is not economies of scale, this is about economies across subsequent iterations:

Economies of scale: When you make a larger quantity of something at the same time, each unit of that thing is cheaper.

Learning curves: Regardless of how much you make in an instance, as you repeat that process over and over again, you across iterations learn how to 'do it better'. As you learn how to do it better, the cost of doing that same task decreases when compared against previous iterations of this.

It really feels like the government does not have a cohesive, 21st century energy and industrial policy. We must utilize the power of learning curves over iterations and consider this across a wide variety of

industries and spaces as Canada works on decarbonizing itself while enabling physical and human capital to generate wealth for the next generations of Canadians.

I have outlined a few recommendations which are examples of effective policy decisions which could be made, but many other policy options do exist.

Recommendation 1: That the government implement a Tax Credit System for ‘Clean Tech’ energy projects similar to the Renewable Energy ITC system in the United States.

The United States has levered an investment tax credit system to enable a growth in renewable energy projects without the government directly spending cash outlays.

It has proven to be an effective way to get foreign capital into the United States, where in the process of that foreign capital being invested and spent – supports local businesses and employees which must build and operate the plants – with much of the monetary value going not to equipment locally but to companies operating in the space.

Read more: <https://seia.org/initiatives/solar-investment-tax-credit-itc>

Recommendation 2: That the government provide funding in the amount of at least \$10 Billion for various electrification programs that span across sectors, industries, and across the private and public sector.

Canada already has relatively ‘carbon free’ electricity. If we are able to leverage the decreasing costs of solar and wind (which would bring electricity costs lower to what we have today), along with our vast hydro and nuclear sources – we can use specialized funding towards decarbonizing transportation, heating, and industrial processes to utilize **low carbon, low cost electricity** in a variety of applications.

While electric cars capture most of the press, electrifying heavy transportation including trucks and public transportation (buses) can help to spur local manufacturing and research and development.

Industrial applications (large amounts of it being heating) can be electrified when electricity decreases in costs, and carbon taxes account for costs related to fossil fuel sourced items.

Recommendation 3: That significant spending towards re-training programs in 21st century professions are provided for those who will be disrupted by the technological disruption taking place across industries

Already in the Solar industry, and for this trade in particular **electricians** are in high demand. This labour shortage will only become more exacerbated and well funded trades and apprenticeship programs can help to effectively help eager individuals to re-educate into a field that will have demand for the foreseeable future.

With there already being the possibility that global peak oil demand could be in our past, we must adjust for the likely fact that many of the trades and professions in the 20th century energy industry (coal, oil, natural gas) will face labour oversupply for the foreseeable future.

Given this indicator for ‘value of skills and labour’ – this should be treated with the utmost seriousness. In order to meet Paris climate obligations, we would need to as of yesterday be aggressively building new primary energy sources, but also rapidly electrifying and moving primary energy sources to non-carbon sources.

The skills gained in accomplishing this work could then be exported, for Canada’s benefit.

Footnote: If you made it this far, I appreciate it. This was drafted close to the deadline, so apologies if it isn’t heavily sourced. Statements made in here are not controversial within the industry. I am available to discuss any of these points if desired.