



Canadian  
Electricity  
Association

Association  
canadienne  
de l'électricité

## **Electricity:**

### **A Strategic Asset for a More Prosperous Future**

Keynote Speech

by

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*Navigating the Changing Landscape with Global Perspectives,*

*Shifting Strategies, and Emerging Opportunities*

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## Introduction

Thank you Charles for your warm welcome, and good afternoon ladies and gentlemen.

At the outset, let me extend my thanks to CI Energy Group for their kind invitation to address you today. I would also like to congratulate them for their five year milestone in staging the Ontario Power event for industry leaders.

I am happy to also note the presence of some of our CEA members, namely representatives from Toronto Hydro Corporation, EPCOR Utilities Inc., Hydro One Inc., PowerStream Inc., EnWin Utilities Ltd., Hydro-Québec, FortisBC, and Ontario Power Generation. I never leave home without them!

Electricity. It's been called the "great enabler" of modern society. From the alarm that woke you up this morning, to the traffic lights that guided your commute to work, electricity is central to our lives, and to the efficient functioning of our society. In fact, I'd be hard pressed to think of any other public asset that provides more good, to more people, every single day.

However, as you well know, Canada's electricity system is at an inflection point. And the decisions we make - or fail to make – will have repercussions for generations to come.

And so, this afternoon, I would like to touch on four issues.

**First, if we are candid, I think it is fair to say that most Canadians have largely come to take electricity for granted.**

We just assume that it will always be there, literally at the flick of a switch. Because we live in a developed country, and because electricity operates in the background, out of sight and out of mind, we tend to overlook its complexity – and more importantly, its reliability.

Yet, we really can't live without this "magic."

Electricity has become, in a word, *indispensable*. To the quality of our lives, and to the competitiveness of our economy. Both our social and economic prosperity depend on it.



## A Strategic Asset

It is this indispensability, that makes electricity such a **strategic asset** for our country. And like any asset, we must nurture it. And if we do, it can and will play a central role in a winning future.

Think about some of the major challenges facing our country, and the transformational goals we want to achieve;

- A more prosperous life for all Canadians.
- Addressing climate change and reducing greenhouse gas emissions.
- Sustainably developing our natural resources.
- Promoting economic development in Indigenous communities.
- Developing clean and green sources of energy.
- Driving innovation.

All of these forces will undoubtedly shape our future. And in every one of them, electricity is central.

Now, as the head of the Canadian Electricity Association, you might think I'm a little biased. As the old saying goes, "he who works with a hammer sees every problem as a nail". But, the essential point I am making, is that when it comes to our electricity, it is critical for us to pivot from a take-it-for-granted position, to one that's focused on leveraging this strategic asset for the betterment of Canadians, and our future. And if we don't, we will be short changing that very future.

## Clean Energy: a Competitive Advantage

**My second point, which is closely tied to the first, concerns the global march towards a cleaner, greener future.**

In trying to take better care of our planet and our health as a species, the climate change agreement reached in Paris could represent a watershed moment. Its core message? That we simply must reduce the amount of carbon we produce, or else...

Our federal government, and their provincial colleagues, are clearly seized with this challenge, and they must now move from the “poetry” of the Paris Agreement, to the “prose” of viable policy. And in doing so, build a national consensus for a long-term plan with industry and other relevant stakeholders. All with the blessing of Canadians.

Not an easy feat.

Some have referred to it as the challenge of our generation. However one defines the undertaking, it is a pressing and complex global imperative that will severely test our resolve and ingenuity as an international community.

Nor is climate change just an environmental matter.

It is equally an economic and financial issue of significant magnitude. If we don't begin to take actions today, future generations will literally be paying much more during their days.

Some quick examples to illustrate this:

According to the Insurance Bureau of Canada, the December 2013 Toronto ice storm resulted in \$200 million in insured losses and pushed that year's severe weather-related insured losses to over \$3 billion – the highest in Canadian history.

In addition, some 60% of insurance claims in Canada are now due to flooding, with an average cost of \$20-\$25K per claim, and severe weather-induced damage can and do lead to mortgage defaults, which only augments the complexity of the related financial risks.

Moreover, in the United States, severe weather is now the leading cause of power disruption, costing their economy between \$18 and \$33 billion every single year.

Our Association believes that you have to price carbon on a North American basis, given that our grid is so integrated with that of the United States.

Now, as we wrestle with the issue of costs, it's important to remember that our electricity sector is already among the cleanest in the world. Almost 82 per cent of our electricity comes from non GHG sources. Of the total Canadian carbon foot print today, electricity is responsible for only 12%. And by 2030, with the complete phase out of coal, that figure will shrink to between 5-7%.

Clearly, electricity is part of Canada's clean energy solution.

By comparison, Germany generates just 41 per cent of its electricity emissions-free.



The United States? Thirty-one. And Japan, 15 per cent. Moreover, coal generation in Canada sits at 15 per cent nationally. By contrast, the U.S. figure is 40 per cent.

Ontario, for example, now generates some 96% of its electricity GHG free. And in Saskatchewan, SaskPower's Carbon Capture and Storage facility will produce electricity that is 10 times cleaner than traditional coal plants. When fully up and running, it will capture 90% of carbon dioxide and 100% of sulphur dioxide.

The point is that the costs to 'green' our electricity system while significant, will be much lower than those in many other nations.

Key to the electricity system of the future will be innovation. And our members, who have been around a long time are helping to drive that innovation. As a result, Canada has already reached the goal set by President Obama for American electricity in his Clean Power Plan. We just did it 15 years sooner.

Speaking about the US, we also run a significant trade surplus every year with our exports of clean electricity to our friends south of the border. And this can be further increased, given the opportunities contained in their Clean Power Plan, where it explicitly permits their States and utilities to import Canadian electricity as part of meeting their new emission targets.

I don't say all this to boast, because that's not in our DNA as Canadians. I say it because our electricity happens to be a tremendous **strategic advantage**; an advantage that should be leveraged in favour of a cleaner environment and a more prosperous future.

### **Thirdly, if done right, de-carbonizing our economy can create *Opportunities*.**

Clearly, the electrification of our transportation system must comprise the next wave of intensive innovation. It is an obvious place to start, since this sector alone represents almost one quarter of Canada's carbon footprint.

By some estimates, there could be as many as 500,000 electric vehicles on our highways by 2018 – and more hybrids than that.

In fact, to appreciate a sense of this potential, Tesla recently started taking reservations for their new Model 3 car, and they received more than 325,000 reservations, which corresponded to about \$14 billion in implied future sales. This made it the single biggest one-week launch of any product ever!

This is all good news for the environment and our health.

But whether you buy one to save money or to save the planet, the bottom line is the same – we'll need more electricity to power and run those vehicles.

And the infrastructure we'll need, to get that electricity to all those new charging stations along our highways and driveways.

That means investing today, to support the transportation system of tomorrow.

There's also the digital world.

A world of smart phones and tablets, computers and digital TVs. All of them transforming how we work, shop and communicate. And all big users of electricity.

Studies show that your smartphone can use more electricity than your fridge. And those vast computer-servers that make cloud computing possible? One server room, at one data centre, can use enough electricity to power 18,000 homes.

And as the cloud grows, as more and more devices are networked, as we develop the "internet of things," the demand for electricity will soar. At the same time, we will need to include in our calculations, the continued advances in energy conservation and efficiency.

All of these represent areas of opportunity for Canadians.

The role of consumers is also dramatically changing.

New technologies are allowing people to manage how they use energy in ways that were unimaginable even a few years ago. From when to charge their electric vehicles, to whether to install a solar panel.

Transforming all of us from passive consumers to engaged partners in the electricity system. And ushering in a fundamentally different relationship between utilities and their customers.

And what about our remote and indigenous communities?

Here too, electricity can play a transformational role. By building micro grids on a partnership basis, using technologies such as solar and run of river generation, we can eventually connect these communities into a wider grid.

Overcoming the challenges of distance and isolation, and removing the need for the polluting diesel power currently in use in many Indigenous communities.

Living conditions facing Canadians in many of these remote areas are challenging, to say the least. Surely, these fellow citizens have the same rights to the benefits of reliable and carbon reduced electricity, and robust economic opportunities, as the rest

of us!

By doing so we can also open up much-needed resource development projects such as the Ring of Fire in Ontario and Plan Nord in Quebec. Creating jobs and opportunities, while transforming the economies of those regions.

My friends, it's time to finish the job of electrification that began in our cities and then was extended into rural communities. We now must bring first class electricity to the North, and complete this dimension of nation building.

### **The Need for investment and Renewal**

**Finally, if we wish to transition to this kind of promising future, we will need to heavily invest in renewing our electricity infrastructure across the country.**

There is no getting around this reality.

Many of Canada's electricity assets are reaching the end of their lifecycle. As a result, our members are stepping up to the plate and investing aggressively.

In 2014 alone, they ploughed more than \$13 billion into infrastructure renewal and modernization.

But more will be required.

The Conference Board of Canada estimates that from 2010 until 2030, we'll need to invest some \$350 billion in our electricity system to renew it, and to meet the demands of a growing population and new technologies.

The other challenge is that our lead times are long – often measured in decades. So while the future may seem a long way off, it's really only an electric heartbeat away. We just don't have the luxury of waiting, if we're going to build the electricity system Canadians want and need.

And by the way, Canada's not alone in having to invest in its electricity system.

The infrastructure life cycle has also caught up in Europe, where it's estimated that they'll need to invest more than \$2 trillion, between now and 2035. In the United Kingdom, another \$100 billion pounds by 2020. And in the United States, it's \$2 trillion by 2030.

Yes, building the electricity system of the future will come with a cost.



Now, no one likes paying more for their electricity.

Homeowners don't like it and neither do businesses. And when you have unhappy consumers, you have the potential for a perfect storm for political inaction, or immediate, short-term thinking.

I was a former politician, I get that. But I'm also a realist.

So let's look at it from a different perspective. What if we *don't* make these investments? What if we simply muddle along, kicking the can farther down the road?

Well, I think the consequences would be quite significant. There will be less than-reliable electricity. A corresponding loss in quality of life. Squandered economic opportunities. And a less competitive economy.

All because of the potential for more disruptions caused by increased brownouts and/or blackouts.

In other words, our asset would become *diminished*.

Think about that Christmas ice storm that hit Toronto a few years ago. Ask those who were affected about the importance of electricity. About taking it for granted – until it wasn't there.

And then project those images ahead ten, twenty years down the road, if we don't upgrade our systems.

Quite simply, failing to invest now will bring other – and greater – costs down the road.

And while it might be tempting to simply build the *cheapest* system available, we really need to invest in and build the *strongest* system possible.

Of course, we must strive to keep costs as low as we can. But we can't be like the cynic who knows the price of everything and the value of nothing.

We need to recognize and price the *value* that electricity plays in our lives, and in the economic life of Canada, and invest accordingly.

I am confident that if we do that, our children and grandchildren will inherit a system that is *at least* as reliable as the one our forefathers built for us.

## CONCLUSION



In closing, these four issues, actually four words – **asset, advantage, opportunity and investment** --- capture the imperative that is electricity. A future imperative.

And the future is always worth investing in because, as I just mentioned, it's about our obligations to our children and their kids, and the kind of Canada we leave them.

That's something Canadians instinctively understand.

Throughout our history, we have undertaken major nation-wide projects. Think of the great railroads of the 19th century, or the highway, seaway and national broadcast systems of the 20<sup>th</sup>.

In all these initiatives, we have understood the importance of looking ahead.

And each time we did, it was transformative – uniting our country, facilitating the movement of people, goods and services, and laying the foundation for economic prosperity for generations to come.

Today, we are again at one of those transformative moments. A time to build something important. Something enduring.

And to leverage one of our critical assets --- reliable electrical power --- to build a brighter, cleaner and better tomorrow.

Let's build that future together.

Thank you.

