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Keynote Address

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Making Green Sustainable
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and Networking Centre

Build it to Last

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Thank you for that warm welcome.

It is a genuine honour to have this opportunity to be with you this morning and share some of my thoughts on our exciting sector.

The members of APPrO generate 98% of Ontario's electricity and Hydro One transmits 96% of that vital commodity to the people of Ontario. Whenever a light goes on in Ontario, chances are good that APPrO members generated the electricity and that it flowed across Hydro One's system to power that light.

So clearly, this is an important relationship to the people of Ontario. Much depends upon us all.

This conference is focused on the right things and at precisely the right time: Making Green Sustainable and Responsibly Rebalancing the System. I hope my remarks will help frame some of the issues you will be discussing over the next two days.

CEOs don't spend a lot of time looking backwards. It's not our job. But at this stage in our history, it is worth taking a moment to look in the rearview mirror at our shared past. This October marked the 100th anniversary of the connection of the first transmission lines in Ontario, linking Niagara Falls to Kitchener, Ontario, then known as Berlin.

On October 11, 1910, Sir Adam Beck pulled a switch and electricity travelled 180- kilometres to transform a

Kitchener hockey rink from darkness into light and to leave Ontario forever changed - for the better.

As we gather here this morning, we truly stand on the shoulders of giants. The work that was accomplished in the tumultuous 20th century was ambitious, sweeping and transformative.

Does that sound familiar? It should, for that is how I would describe the work that we are undertaking together today. **Ambitious, sweeping and transformative.**

As we undertake this important work, the 20th Century offers us vital lessons. The advances they made didn't happen overnight, they happened slowly, pervasively and with an eye to the growing Ontario economy.

It wasn't a single push to electrification; it was many repeated, tireless efforts across decades. The electricity sector has never moved effortlessly forward. The sector has faced changes and reversals, starts and stops. It ground to a halt during the Great Depression; it surged during the post-war boom of the 1950s and 60s.

It takes time to build a system like ours. And, it takes planning.

The leaders who preceded us accomplished much that we strive to emulate.

They built assets that lasted.

They made investments that were prudent and logical.

They served their ratepayers by generating and delivering safe, reliable and affordable electricity - and by responding appropriately to the ebb and flow of demand.

Affordable is an important part of that last statement. Affordable is about cost but perhaps more about value. Affordable is not always synonymous with cheap. Rather, it's good value for money.

What do we want people to say about us in 100 years?

Personally, I want them to say that we, the collective leadership of the sector, delivered safe, reliable and affordable electricity. But I also think we are reaching a little higher. I want them to say we turned the sector on its head but in a way that continues to serve their needs.

That we helped Ontario lead the way in connecting renewable and clean power.

That we innovated and introduced the right technology at the right time with a smarter grid, and enabled a remarkable and positive period of change. All of this is within our capability to achieve.

This morning, I'd like to offer you a view into investments we have made and are making in our system and what they mean to generation proponents in Ontario.

I'd also like to share my thoughts on where we are going, the development of the Smart Grid and what it means to you, as well as the Long Term Energy Plan. And I'd like to discuss how we can work together to deliver on the promise of sustainable renewable and clean energy.

As the President and CEO of Hydro One, I would be remiss if I didn't begin with offering you some insight into my company. There are many indicators at Hydro One that the second century of electricity in Ontario will see as many changes and as much progress as the first – although likely at a much faster pace. I'd like to talk to you about a few areas of particular interest to me: our aggressive and much needed capital expenditure program, the progress we are making in enabling renewable projects and the transformation underway on Hydro One's system.

Capital Expenditures

Since 2003, there has been unprecedented investment in our wires business. Capital expenditures have risen from less than \$600 million to more than \$1.5 billion dollars in 2009.

But it's not how much you spend; it's what you get for your money. And I believe we are getting good value for our money. As the stewards of Ontario's transmission system and largest distribution system, we are prudently investing in necessary expansion, upgrades and sustainment.

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For example, in 2004 we opened the Ontario Grid Control Centre, a state-of-the-art facility that allows us to oversee and control our transmission system from a single location. For generators, it means we're better able to offer you transparency and insight into events on our system. For us, it means we have a clearer view of events that affect our connection with you.

Hydro-Québec Intertie

In 2006, we signed an agreement with Hydro-Québec's transmission division to build two new circuits across the Ottawa River, to directly connect the two provincial high-voltage power systems.

The project was designed to provide continuous interconnection between Québec and Ontario.

Completed last year, the project boosts Ontario's import capacity by 1,250 MWs. That's enough power to supply the city of Ottawa.

It also helped the Province in meeting its goal of reducing reliance on fossil fuels for electricity. While conceived a half decade ago, this project is consistent with the objectives of legislation today.

Downtown Toronto Tunnel

With little fanfare and almost no disruption to the businesses and citizens of Toronto, Hydro One built a two-kilometre long tunnel connecting John Transformer

Station and Esplanade Transformer Station. We're particularly proud of this, at a time when every street and neighbourhood in Toronto seems to be under construction.

Buried 35 metres below the city's streets, the twin circuits improve Toronto Hydro's operating flexibility and increase Hydro One's transfer capability, instrumental in our ability to restore power following the outage in Toronto this past summer.

Bruce to Milton

Like Sir Adam Beck's project in 1910, our biggest and most important project is also a 180-kilometre long transmission line.

Connecting Bruce to Milton is a vital piece of Ontario's clean energy future. The double-circuit 500kV line on an existing transmission corridor runs from the Bruce Power facility to Hydro One's switching station in the Town of Milton.

The new line is designed to increase the province's transmission capacity and to provide access to 3,400 MW of new renewable energy, as well as nuclear power from the Bruce Peninsula. Nuclear, solar and wind facilities will rely on this line to deliver their power to market.

The Bruce to Milton reinforcement, Ontario's clean energy corridor, represents an investment of more than \$600 million dollars in Ontario's transmission system.

This 180-kilometre transmission line is being built in a much different context than Sir Adam Beck's connection to Kitchener. A century ago, constructing a power line was cheered on as a civic good. Today, building electricity infrastructure in Ontario requires a whole different set of skills. This context is worth keeping in mind as the Long Term Energy Plan is developed. With the long lead times necessary for the construction of new wires, effective long-term planning has never been more important.

The approval process for Bruce to Milton went fairly smoothly from our perspective and yet it took years.

The project was subject to both the Environmental Assessment Act and Ontario Energy Board approvals. Hydro One worked on pretty aggressive timelines, initiating the Environmental Assessment process and filing the Section 92 leave-to-construct application with the regulator simultaneously to meet the in-service date for the line. We were assisted greatly in this by our partners at the Ontario Power Authority and the Independent Electricity System Operator.

We did a lot of things right on this project. We chose an existing corridor, in keeping with the provincial land use policy, and we designed the project aggressively to minimize the need for land acquisition.

Even so, we needed to obtain rights to an additional 50 to 60 metres of land adjacent to the existing corridor.

This resulted in the need to obtain additional easement

rights and to purchase some properties, and to expropriate others.

Our success on this project wasn't so much about what we needed to accomplish, but how we set out accomplishing it.

By consulting early and transparently with local property owners, First Nations and Métis communities, local municipalities and other stakeholders, we mitigated many of their concerns. Keeping the channels open, being visible and available for conversations made a significant difference.

Sustainment

Sustainment investments are often considered the poor cousin to the development of new projects and expansion. But the investments necessary to ensure that existing transmission facilities continue to function reliably are just as vital as building new equipment.

We understand and analyze our equipment to a degree that I believe would give you all some comfort. It's true, much of our system is getting on in years, but I'm fond of telling people that age is not the only measure. There is a difference between assets getting older and assets not performing.

The sustainment work we do is timely, prudent and cost-effective. We hope to replace an asset just in time - at the very moment before its end of useful life. We **build it to last** and it would be a disservice to our customers

if we had to take an asset out of service before its work was done.

Much of our spending is on new breakers, protection and control equipment, transformers, and lines and towers.

For example, we are replacing 12 transformers between now and the end of 2012.

We are rust-proofing 2,000 transmission towers and substantially restoring 320 other towers to their original condition.

We are replacing 11.2 kilometres of underground cable along Toronto's Lakeshore to address reliability and supply issues.

These investments don't offer photo opportunities or ground-breaking ceremonies, but the work is just as vital to ensuring power quality and reliability.

So what does all this work mean for you, the generators?

We have made major progress in enabling new generation. Since 2003, Hydro One has:

- connected over 2,200 MW of new renewable generation
- connected over 4,500 MW of new natural gas fuelled generation
- constructed or upgraded over 5,000 km of transmission and distribution line

Through the RESOP and FIT programs, we have been able to connect, at peak production, about 684 MWs of renewable energy.

Under the microFIT program, we have connected about 1,500 projects and have made offers to connect on many more.

We learned a great deal from the RESOP program and I can say with confidence that now all agencies are better coordinated and better prepared.

At Hydro One, we have dedicated account executives in place to deal directly with proponents.

We launched the distributed generation customer advisory board so we can better understand your concerns and businesses.

We have also established working groups to tackle the technical issues involved in the connection of distributed generation. Many generators are faced with capacity constraints on both the transmission and distribution systems, some of which will require substantial investment in order to expand capacity.

While Hydro One has quickly gained considerable experience in the connection of renewable generation, the connection of renewables to distribution systems is a relatively new aspect of distribution system planning and operations. It is one that has introduced new technical and regulatory complexities for us.

Hydro One's distribution system, being a rural system that serves large expanses of sparsely populated areas, poses particular technical challenges. However, those challenges are not limited to the distribution system, but also extend to the transmission system.

As the steward of Ontario's transmission system and largest distribution system, we are the fulcrum in the balance between the need to connect new generation and connecting more than the system can handle. Hydro One will continue to fairly balance the needs of its various customers. For our load customers are the consumers of the electricity you generate. It's in the best interest of all of us that we ensure that at a minimum, our existing customers do not have reliability or power quality issues caused by new connections. It's a fundamental part of Responsibly Rebalancing the System.

So where are we going together?

I believe that the future of our system very much hinges on the development of the Smart Grid, or Advanced Distribution System. For proponents, a smarter distribution system will mean connecting new generation to that system will be much easier. Our system needs major transformation but we have to do so prudently, cost-effectively and at a manageable pace.

The Smart Grid won't arrive all at once, but when it does arrive, what promise does it bring?

The Smart Grid is all about the convergence of information technology, advanced telecommunications and sophisticated operating and control technologies to expand the capabilities of the electricity distribution grid and bring it into the 21st Century. This is particularly vital to Hydro One as we face the unique challenge of managing a distribution grid that stretches across the Province, including some very low-density rural areas.

We have to start with what we have, which is a legacy system that continues to serve us well, and we have to renew it in a way that makes it smarter and more responsive, without breaking the bank.

BENEFITS OF THE SMART GRID

What will the Smart Grid really do for us?

The Smart Grid will, quite simply, transform our customer relationship and we think this is a very exciting way to enter the next decades of electricity delivery.

Technology will now allow us to anticipate, identify and better respond to power outages and confirm restoration – today we rely on customers calling in.

Enabling Distributed Generation

There are myriad other retail customer applications and benefits, but probably most vital to the people gathered in this room, smart grids will provide us with the **operational flexibility** required for distributed generation located on our distribution system.

A smarter grid will further facilitate investment in renewable sources of power generation like solar, wind

and biomass – key to this Province’s goal to increase the amount of renewable generation in our system and decrease our reliance on carbon-based fuels.

Optimizing our Assets

The Smart Grid represents the technological convergence of the high- and low-voltage wires systems.

The intelligence and flexibility of the transmission system will be incorporated into the distribution system providing seamless and efficient operational control across all of our wires assets.

We will be able to piggy-back onto the extensive province-wide fibre optic network we own to provide the communications backbone to enable new smart functions and applications across our distribution system.

Better and more-timely asset information will allow us to optimize our maintenance and refurbishment programs, as well as reduce our operations and maintenance costs.

The Long Term Energy Plan

The government’s Long Term Energy Plan will give us all a road map to guide our efforts.

If I had to capture Hydro One’s input into the Long Term Energy Plan in three words, it would be these:

Remember the Wires.

The Plan will clearly map out an integrated approach to the development of Ontario's system and the enablement of renewable technology. For generators, this will help clarify expectations about what can be connected where and when. For Hydro One, the Long Term Energy Plan will define our work for the years ahead.

The consultation work of the Long Term Energy Plan was a valuable exercise. It asked all of us to balance our plans and desires against value and affordability. The Plan will give us that long planning view that was responsible for much of the success of the last century. And it will lead us to a future that delivers the generation, grid and distribution network that Ontarians deserve.

So, if that's the future, how do we get there from here? I think we rely on some lessons from history.

1) Let's build it to last

Clearly we can't approach the electricity system the same way we may approach other technologies. What's new today can't be old tomorrow. We must continue to employ the right technology at the right time. And we must introduce new technology, not just because we can, but because it will best serve our ratepayers and will continue to do so for decades. I would be proud if transformers we install in 2012 are still serving Ontario in 2062.

2) Let's be patient and understand that the system will be transformed over time.

We need to make prudent, logical investments in Ontario's electricity infrastructure that ensure its long-term health.

We must remember that this is a transformative process. It is an evolution, not a revolution. It's clear that connecting new generation will require investment in distribution and transmission infrastructure; it's also clear that those investments will be held to a strict economic test.

This will mean that the pace of change is too slow for some. However, we must all remember: the system of the 20th century took a century to build. This is not a business for impatient people. While we all, at times, chafe at the restraints placed on us by process, we should be thankful. Those restraints ensure that we are building what the people of Ontario need and value.

And that brings me to my final point.

3) Let's never, ever forget the ratepayer.

They are the reason we are in business. We power their homes, their businesses, their places of work, their communities. Decisions we make have real impacts on real people.

Our decisions translate directly into dollars and cents on the ratepayers' bills. And as the leader of a company that delivers about 1.3 million of those bills into mailboxes every billing cycle, I can guarantee you that

those numbers mean a great deal to the customers who open those envelopes.

And they wonder why the electricity we deliver costs what it costs. Therefore, we must not only deliver value, we must help our consumers understand the value of what we deliver. And we must never lose sight of our customers. For, as I've said, our customers are your customers.

Closing

I'd like to thank you for your kind attention and especially thank APPrO for bringing us all together to reflect on and discuss sustainability in our sector. There are many important issues facing us and you will have an opportunity to debate and discuss over the next day or so.

As I said at the outset, these are exciting and transformative times. We have the opportunity to learn from the past and build for the future. For more than a century, the electricity sector in Ontario has delivered on the same promise of a safe, reliable and cost-effective supply of electricity.

I know that the people in this room will continue to deliver on that promise.

Thank you.