



# Transformational Infrastructure: The Work of Nation Building

Response to Guest Editorial by Hon. Sergio Marchi, Canadian Electricity Assn., published in Spring 2016 issue, #75.

It is difficult, almost impossible, to underestimate the role of electricity in the transition to a low carbon economy. As we move away from hydrocarbons for heating and transportation, the most likely alternative will be electricity. Not uniquely, of course — passive heating and energy efficiency should be preferred whenever possible — but dominantly. In fact low-carbon future scenarios include, without exception, much greater electricity use and fuel efficiency. There are many reasons why electricity is at the heart of low carbon transitions.

Electricity from renewable sources is becoming more and more competitive with respect to alternatives. The most recent tender from Hydro-Québec, for example, was as low as 6.4 ¢/kWh, and prices are still falling. Electricity is also much more efficient than fuel for performing work; an electric car, for example, requires about four times less energy than a fuel-based one to move from point A to point B. Similarly, with heat pumps, electricity can deliver two or three times more heat per watt than natural gas.

As Sergio Marchi rightly points out, the constitution attributes jurisdiction over energy to provinces which have, historically, perceived a need to ensure production inside their territory. This has led to a

fragmented market with widely varying rates and energy sources as we move from province to province, preventing Canada as a whole from benefitting as much as it should from its renewable energy resources. This is even truer today as hydro dams scattered around the country constitute immense energy storage facilities that



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can be leveraged to increase significantly the part of intermittent renewable energies on the network. With a strong East-West national grid, it would be easier than in almost any other country to reach a target of 90 or even 100 % renewable electricity over the next 20 years. Yet, this transformation is unlikely to occur without a national leadership that breaks the traditional provincial-centric position about electricity generation and demonstrates the advantage of thinking more

globally in this sector, as is done by other national or transnational groups around the world.

Innovation, as underlined in Sergio Marchi's editorial, is crucial, but, more important, are political will, vision and leadership. The absence of deep electricity integration between provinces is not caused by technical constraints but simply because nobody managed to drive the concept through. This is why it is essential for the Federal level to fully play its role in supporting an increase in interprovincial electricity trade and promoting low-carbon emission energy production.

This would go a long way in the development of a rich low-carbon economy for Canada in addition to foster the investments in innovation discussed by Sergio Marchi. ■

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Catherine Potvin is the founder and leader of Sustainable Canada Dialogues, a group of 60 scholars from across Canada, of which Normand Mousseau is part, that has offered a national action plan on climate change (<http://www.sustainablecanadialogues.ca/en/>).

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