
CANADIAN ELECTRICITY ASSOCIATION

G-7 PANEL DISCUSSION ON RESILIENT COASTS & COMMUNITIES

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Canadian
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G7 Panel on Resilient Coasts and Communities

- Thank you Minister for the invite to participate in this G7 conversation about resilient coasts and communities.
- Let me briefly touch on three issues:

1. First, building resilient infrastructure must become the norm.

- Much of Canada's electricity infrastructure was built some 40 years ago, and it is now approaching its end-of-life cycle.
- We now need to replace those platforms, and the other G7 countries are in the same predicament.
- Accordingly, our utilities have been investing almost \$20B annually in infrastructure renewal.
- However, much of this investment is just to keep the lights on.
- Addressing infrastructure resiliency is an added consideration

- As we all know, weather extremes are the new normal --- heat waves, high winds, flooding, hail and extreme cold
- Our members' operations are coming under siege --- from overland flooding which impacts substations, to ice storms wreaking havoc on distribution lines, and everything in between.
- And of course, millions of customers bear the direct impact.
- In Canada alone, according to the Insurance Bureau, catastrophic loss claims have already increased from \$200 – \$500 million a year, to more than 1 billion/per year.
- Our utilities have therefore been compelled to adapt to this changing weather phenomenon since the 1990's, including building capacity and expertise in hydrology, watershed modeling, and forecasting.
- Our members work with the scientific community to better understand the long-range (2050) seasonal temperature and precipitation changes based on Global Climate Models.
- Based on this information, further efforts are being made to calibrate hydrological models for each of the affected river basins.
- CEA is also working closely with Minister Sohi's department to address this issue head on.

- All this work is critical, as inaction is not an option.
- And as we make progress, we must share lessons learned and best practices with the G7, and developing countries.

2. Second, the role of innovation.

- Building resilient communities requires innovative solutions in community planning, building codes, and electrical systems
- Again, we're working with NRCan and the Canadian Standards community to identify resiliency measures, including developing standards around elevation levels for new infrastructure.
- Besides traditional infrastructure resiliency, coastal communities will have to look at different forms of energy options, including residential and grid-scale storage technologies, community-based micro-grids, and renewables to address impacts and vulnerabilities of climate change.
- One example is right here in Nova Scotia.
- In the community of Elmsdale, backed by a wind farm, Nova Scotia Power, has installed energy storage batteries in 10 homes as well as a much larger grid-sized Tesla storage Powerpack, at a community substation.

- Innovation pilots are indispensable investments, if we are to reduce the scale of damage from future weather-related impacts.
- Governments and regulators need to therefore facilitate such investments.
- Yet, regulators are often doing the opposite.
- On the altar of lower costs, they are routinely rejecting our innovation pilots, and this needs to change.

3. Third, we must enhance collaboration and knowledge transfer opportunities

- There needs to be more *shared* innovation and R&D within the G-7
- Increasingly, the G7 should *jointly* identify technological opportunities, and *jointly* pool their resources, so as to leverage the required capacity to adequately address energy systems in coastal communities.
- At the same time, outcomes from this collaboration should be shared with developing countries, by way of a transfer of knowledge.

- The public and private sectors have invested millions of dollars on studying climate models, developing standards, and technology-know-how over the years on infrastructure resiliency.
- Now, we should find better ways of disseminating this global knowledge.
- One approach could be to formalize an Information Clearinghouse among G7 countries.
- We should also direct our international institutions, like the World Bank, to make this a focused endeavor of their work.
- We're already collaborating under the Mission Innovation (MI) initiative to accelerate global clean energy innovation; the same could and should be done on climate change adaptation and resiliency.

- **In Closing...**
- In closing, most of us have become amateur meteorologists.
- And that's because we're all experiencing the significant weather changes, and comparing them to those that shaped our childhoods.
- The public knows that something is afoot.

- So, there should be a strong base of public support for governments and regulators to not build infrastructure on the cheap.
- To encourage more innovation, not less.
- In other words, as these severe and extreme weather events continue to increase, we must be prepared to build the best and the strongest infrastructure.
- Indeed, we have the obligation to pass onto future generations an infrastructure that will meet the test of their times, and nothing less.
- Thank you.

Sergio Marchi