CCRE/WISE
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Financing, Regulatory & Policy Alignment

Colin Andersen
colin.andersen22@gmail.com
Chair, Energy Council of Canada
Senior Executive Fellow, WISE
Executive Advisor, Canadian Green Bank
Top Issues
1. Commodity prices
2. Climate Framework
3. LNG
4. China – India
5. Regional connections
6. US Policy
7. Renewable energies
8. Trade barriers
9. Talent
Energy Past ≠ Energy Future

Electricity’s 1st 100 years

- Utility scale grids
- Passive consumers
- Generic electrons
- Single fuel projects
- Geographic monopolies
- Central planning
- 2B + in energy poverty

The next 10

- Distributed peer to peer energy
- Engaged “prosumers”
- Hybrid services (eg. efficiency, telecom, alarms)
- Clusters (eg. Renewables/gas/storage)
- Roaming customers
- Local engagement (eg. Indigenous peoples, communities, businesses)
- Low-carbon energy access

"Energy is the golden thread that connects economic growth, social equity, and environmental sustainability"  UN Secretary-General Ban Ki-moon
Emerging Trends & Lessons Learned

Trends

• Decarbonization & carbon pricing
• Market evolution
• Integration of renewables
• Rate reform
• Tariffs, subsidies, tax credits
• Utility transformation
• Engaged consumers
• Indigenous partners
• Green Finance (eg. bonds, infrastructure Banks)

Lessons Learned

• Prudent phase-in
• Wait for price decreases
• Community partnership key
• Keep elements of competition-project selection & dispatch
• Incent power where & when needed
• Impacts on existing: system & local
• Willing hosts
• Fair is in the eye of the beholder
## Future Readying Energy: Where and What is Needed?

<table>
<thead>
<tr>
<th>Where is Innovation Needed?</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Policy</td>
<td>Decarbonization - renewable supply; climate change (cap and trade, taxes); revenue recycling (revenue neutral, infrastructure) Energy Poverty – “bird number two”</td>
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<tr>
<td>Financing</td>
<td>Green bonds; capacity contracts; tariffs, subsidies, tax credits; Indigenous and community partners; insurability, green infrastructure banks</td>
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<td>Markets</td>
<td>Market hybrids – competition in energy/capacity/dispatch; certainty via PPAs</td>
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<td>Regulatory</td>
<td>Rate reform (fixed/volumetric); transformed utilities; social license</td>
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<td>Contracting</td>
<td>power where &amp; when needed (eg. renewable/storage/gas combos); term lengths; community adders/partners</td>
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<tr>
<td>Technology</td>
<td>Pico projects; microgrids; prosumers; integration; scaleable/standardized plug &amp; play installations</td>
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<tr>
<td>Utilities/Providers</td>
<td>Microgrid enablers not “death spirallers”</td>
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<td>Politics</td>
<td>Interjurisdictional/intersectoral collaboration(!)</td>
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“Energy is the golden thread that connects economic growth, social equity, and environmental sustainability”
UN Secretary-General Ban Ki-moon

“Emerging technological, social and business innovations mean that it is now possible for more than 2 billion people to gain access to energy that will radically transform their well-being...”
WGSI OpenAccess Energy Summit

Serving this emerging market will provide unprecedented business and economic opportunities – and require breakthrough strategies

The problem is not small
• 1.5B have a light and a washing machine
• 4B have only the lightbulb
• 1.5B have neither

Opportunity NOT TO BE LOST – address energy poverty as we decarbonize

“We hope you will want to join us.” WGSI OpenAccess Energy Summit

https://www.dropbox.com/sh/6yosfa91d3q9olr/AAAfKsKguap2Pny8afluceGa?dl=0

“We need to address energy poverty in ways that are:
– Clean
– Affordable
– Scaleable
– Sustainable”

Affordable Energy for Humanity, Global Change Initiative