



H.G. Acres 2026 + Powering Positive Change symposium

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Transmission congestion and Toolbox of solutions

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Why is the energy transmission and congestion a challenge in Ontario?

Why does this matter now?

Growing demand in Ontario

- Existing 30,000 km of high voltage transmission lines
- Ontario has 26 inter-connections with neighboring provinces and the U.S.A which allow electricity to flow into and out of Ontario
- Demand projected to grow ~65% by 2050
- Peak demand: 23–24 GW to ~40 GW
- Need for major grid expansion



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Challenges/Bottlenecks

What are the challenges/bottlenecks that you have observed?

Challenges

- Tariff impacts with the supply chain
- Equipment and transformer lead times
 - Limited by equipment availability/ taking several years from order to delivery
- Environmental and regulatory requirements
- Permitting delays
- Data centres
 - Need significant amounts of power may create constraints in capacity



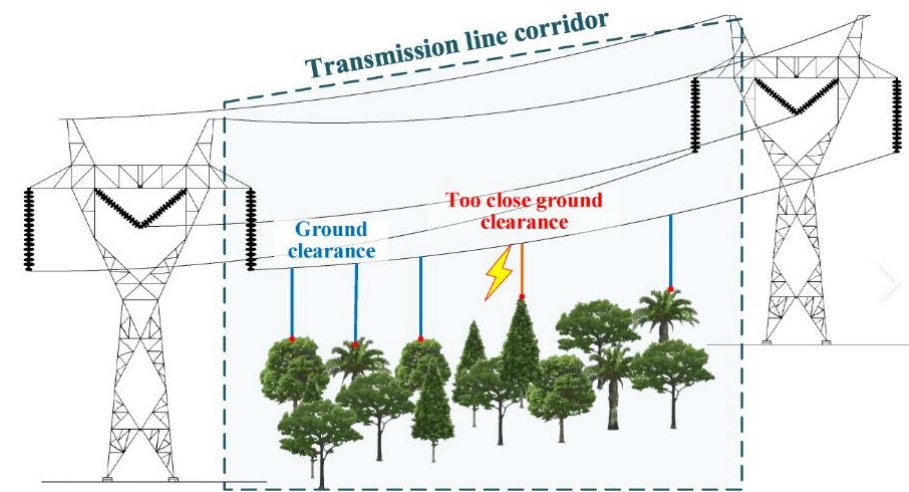
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Toolkit of Solutions

What are the solutions to these evolving challenges

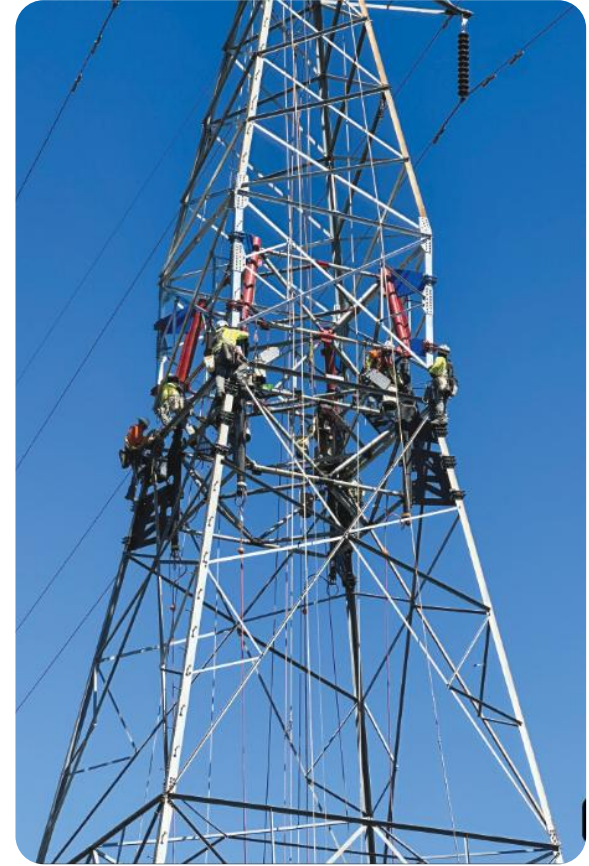
Toolkit of solutions – Type 1

- Dynamic Line Rating (DLR)
- Reconductoring
 - High Temperature Low Sag (HTLS)
 - Higher aluminum content
 - Self-damped
 - Pre-tensioned conductors
 - Twin vs single conductors
- Add in-span structures

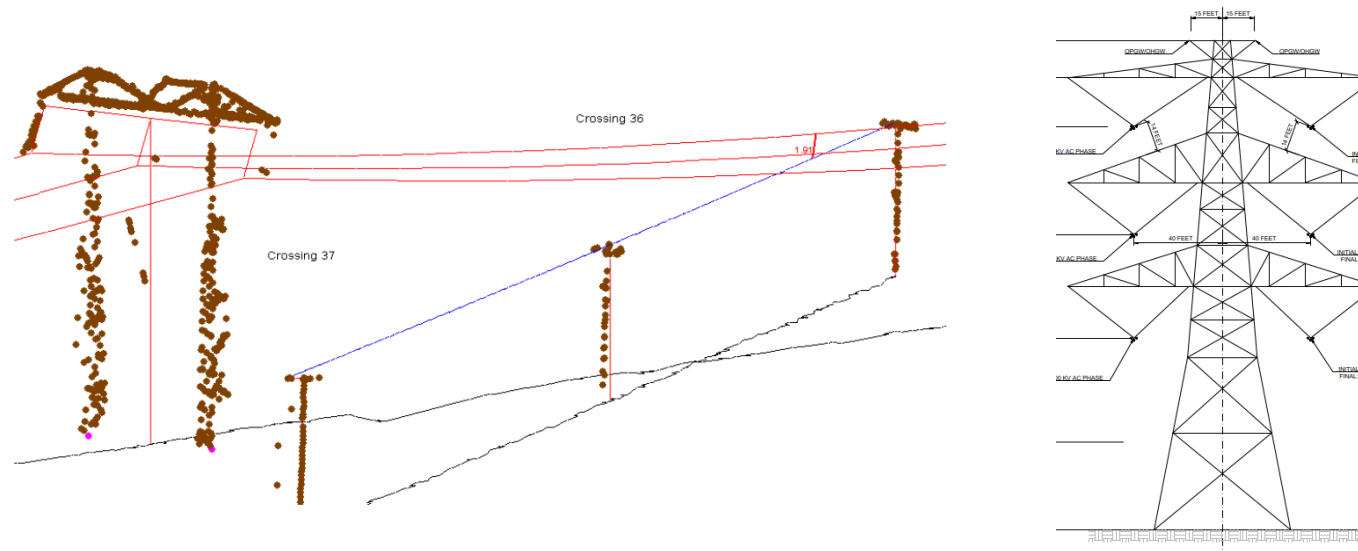


Toolkit of solutions – Type 2

- Raising of towers
- Voltage uprating
(Compact-structures)
- Convert AC to HVDC
- Future-proofing
 - Structures designed for both AC and DC



Project Example



- BC Hydro Thermal Operating Studies
- CAISO: Conceptual tower design [Initial 500 kV AC; Future 525 kV DC]

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Looking forward

What success looks like

The future...

Let's build positive
change, together.

Thank you.

For more information, please visit hatch.com



