

# **Electro-Federation Canada: Submission to the House of Commons Standing Committee on Natural Resources on Canada's Electrification, Energy Self-Sufficiency and Domestic Energy Security**

**Committee: Standing Committee on Natural  
Resources**

**Study: Canada's Electrification, Energy Self-Sufficiency  
and Domestic Energy Security**

June 16<sup>th</sup>, 2026

Hon. Terry Duguid, P.C. M.P.  
Chair of the House of Commons Standing Committee on Natural Resources  
House of Commons  
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Submitted via: [RNNR@parl.gc.ca](mailto:RNNR@parl.gc.ca)

Dear Mister Chair,

On behalf of the Board and Membership of Electro Federation Canada (EFC) I am pleased to provide you, the Clerk, and the esteemed members of the committee with our written brief for the committee's study of Canada's Electrification, Energy Self-Sufficiency and Domestic Energy Security.

By means of brief background, EFC represents more than 230 member companies that manufacture, distribute, market, sell, and maintain a wide range of electrical and automation products that power industries across North America and contribute to Canada's net-zero future, including distribution equipment, transformers, switchgears, electric vehicle chargers, lighting, motors & generators, cables & wires, wiring supplies, industrial controls, enclosures, automation/optimization software, and more. The electrical and automation industry is the technology developers, innovation experts, and supply chain partners needed for a strong, resilient, and electrified economy. EFC members contribute over \$15 billion to the Canadian economy annually and support 109,000 jobs directly and indirectly in more than 1,400 facilities across the country, representing \$9 billion in labour income.

As the voice of Canada's electrical and automation sector, EFC welcomes the committee's study on Canada's electrification, energy self-sufficiency and domestic energy security. This is a timely and important area of study as Canada works to strengthen its economy, build more resilient energy systems, and advance electrification in a manner that supports long-term competitiveness, reliability, and affordability. The issues before the committee are closely connected to the ability of industry to plan, invest, and deliver the technologies and infrastructure needed to meet Canada's energy and economic objectives.

EFC is pleased to provide its perspectives and recommendations for the committee's consideration and hopes the feedback outlined below is helpful to its study and deliberations. Our brief will focus on the following areas of the study: clean electricity technologies, peak-power demand, market diversification and domestic supply chains, energy security, and recommended federal policies to support electrification.

We would welcome the opportunity to continue engaging on this topic and to serve as a resource to the committee as it advances its work in this area. Please do not hesitate to reach out should you have any questions or require any further information. Thank you again for this opportunity.

Sincerely,



Cherith Sinasac  
Director of Government Affairs  
Electro Federation Canada  
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## Executive Summary

Canada's electricity system is undergoing significant transformation, driven by increased demand from electrification, economic growth, and emerging large-scale loads. Achieving a net-zero electricity system will require sustained investment in grid expansion, asset upgrades, and grid modernization

Grid modernization allows utilities to extract more value from existing assets, without the lengthy lead times for building new infrastructure. While many of the required technologies are commercially available, deployment is lagging due to supply chain constraints, utility regulatory and rate-setting frameworks, and gaps in codes and standards.

Supply chain and cost pressures are the dominant, system wide challenge affecting system reliability, affordability, and project timelines. Strengthening domestic capacity, while maintaining access to diversified global supply chains, will be essential to ensure Canada can access the critical grid equipment and inputs required to support system growth and enhancing energy security. A more targeted approach to critical grid supply chains, including identifying priority bottlenecks and co-investing with industry in capacity expansion, would help address some of the most pressing constraints. Demand-side measures will also be critical to managing peak demand and optimizing system performance.

EFC recommends that the federal government:

- Launch a federal critical grid supply chains initiative;
- Expand incentives to support domestic manufacturing of grid technologies;
- Provide targeted financing to strengthen supply chains;
- Modernize utility regulatory frameworks, codes, and standards;
- Reopen support for smart grid pilots and demonstration projects; and,
- Enable greater uptake of demand-side measures.

## Electricity System Transition

Canada's electricity system is entering a period of significant, structural transformation. Electricity demand is increasing rapidly due to electrification across sectors, economic growth, and new large energy loads. At the same time, the system is becoming more complex, with increasing integration of distributed energy resources. Adoption of behind-the-metre solar, smart EV charging, and other connected devices is accelerating. These trends increase the need for system flexibility, bidirectional power flows, and real-time control. The Distribution system will play a much larger role, as customers become both consumers and producers of electricity.

Meeting these objectives will require Canada to simultaneously expand, upgrade, and modernize its electricity system. Canada faces a once-in-a-generation grid expansion and modernization, requiring hundreds of billions of dollars in investment over the next decade. Traditional and digital grid technologies will be central to delivering this transition.

Against this backdrop, grid technologies are no longer a secondary consideration. The ability to deploy critical grid hardware and software at scale will determine Canada's success in enabling

industrial growth and investment, strengthening resilience, maintaining affordability, and achieving climate and electrification goals.

While provinces and utilities play a central role in electricity system planning and operations, the federal government has an important enabling role. This includes supporting supply chain resilience, facilitating deployment, and providing the policy certainty required to enable long-term investment while respecting provincial and territorial jurisdiction.

### **Barriers to Deployment**

To support this transition, EFC commissioned a national assessment of key grid technologies called *Building Canada's Future Electricity Grid: A Supply Chain & Policy Roadmap* ('Roadmap'). A central finding of the Roadmap is that the technologies required to support electrification are already commercially available; however, deployment is not keeping pace.

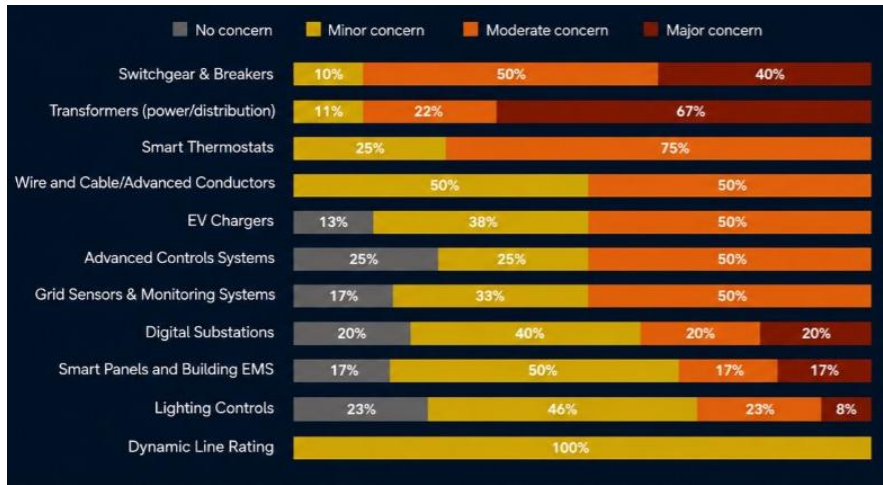
The primary challenge to realizing the full potential of clean electricity technologies is not innovation, but the ability to deploy these technologies at scale.

Key barriers include:

- supply chain constraints, including long lead times and limited equipment availability;
- Utility regulatory and rate-setting frameworks that favour traditional infrastructure investments over smart grid and digital solutions, and
- gaps in codes, standards, and interoperability.

Supply chain pressures, including cost escalations driven by shortages, long lead times for critical equipment, and high import reliance are already affecting project timelines and costs. These pressures have direct implications for electricity affordability, grid modernization timelines, and the ability to connect new load and generation.

The graph below includes data on EFC member perspectives regarding critical grid equipment supply chains, with nine in ten EFC members having major or moderate concerns about transformer, switchgear, and circuit breaker supply chains.



The chart below outlines lead times for critical grid equipment categories, illustrating the long timelines associated with procuring the components.

Equipment Category	Lead Times
Power transformers	80–210+ weeks (1.5 – 4 years)
HV circuit breakers	151 weeks (3 years)
MV switchgear	Up to 80 weeks <sup>43</sup>
Distribution transformers	100+ weeks (~2 years)
HV cables	2–3 years
DC cables	5+ years
Substation hardware (enclosures, protection systems)	100+ weeks (~2 years)

At the same time, current utility regulatory and rate-setting frameworks do not always enable the deployment of advanced grid or demand-side solutions, even where they may represent the least-cost approach. Utilities cited unclear cost recovery mechanisms for digital solutions and lack of valuation and compensation frameworks for distributed energy resources, demand flexibility, and smart grid technologies.<sup>3</sup> Addressing these barriers will require coordinated action across governments, regulators, and industry. This includes modernizing regulatory approaches, accelerating the development of standards, and ensuring that supply chains can support sustained infrastructure build-out.

<sup>1</sup> EFC Member Survey Data. June 2026.

<sup>2</sup> EFC Member Presentation. June 2026. Original data from Wood Mackenzie, Kiewit, IEA, and other sources.

<sup>3</sup> [Building Canada's Future Electricity Grid: A Supply Chain and Policy Roadmap](#). Prepared for Electro Federation Canada by Dunsky Energy + Climate Advisors. January 2026.

Further detail on these barriers, as well as the role the federal government can play in addressing them, is outlined in the appendix to EFC's Grid Technology and policy Roadmap.<sup>4</sup>

### **Energy Security and Domestic Capacity**

These supply chain challenges also have direct implications for Canada's energy security and domestic capacity.

Electrification, energy security, and economic resilience are increasingly shaped by the strength of supply chains for electrical equipment. Canada relies heavily on imported products and components and many products assembled or manufactured in Canada contain imported parts. 60% of Canada's critical electrical equipment is imported. 70% of those imports are coming from the United States, China and Mexico.<sup>5</sup> Canada's ability to build and modernize its electricity system depends on a wide range of components, including electrical steel, copper, bushings, electronics, relays, semiconductors, or specialized component parts. Canada's electrical supply chains have significant exposure to cross border trade action, and steel and aluminum tariffs. and

Canada must secure access to reliable and diversified global supply chains for equipment that will not be manufactured domestically. Many critical components are produced through highly specialized and internationally integrated markets. Ensuring continued access to these supply chains will be essential to maintaining the pace of grid expansion.

. To unlock deployment, attract investment, reduce risk, and strengthen domestic supply chains, Canada should seek to ensure sufficient domestic manufacturing capacity for critical technologies.

Additionally, there is a clear opportunity to expand domestic manufacturing capacity in strategic areas where Canada can build and scale production. This supports economic development, reduces exposure to external shocks, and strengthens long-term system resilience. In addition to broad supply chain resilience measures, there is value in launching critical grid supply-chains initiatives focused on priority bottlenecks. This could include working with industry to identify priority gaps, bottle-necks and co-invest in capacity expansion in areas such as transformer subcomponents, high-voltage breakers, electrical steel and core-related constraints, and select electronics and printed circuit boards where domestic production is viable. Industry is best positioned to help identify where targeted investment can be most effective and where capacity expansion would have the greatest impact on deployment timelines and system resilience. Industry is eager to work with government to support informed funding initiatives.

Recent experience in the United States also demonstrates the value of stable, investment-driven industrial policy in attracting manufacturing growth – under the *Inflation Reduction Act*, electrical manufacturing grew significantly due to government funding.<sup>6</sup> For Canada, this underscores the opportunity to position itself as a competitive and reliable jurisdiction for investment in electrical and grid-related manufacturing, particularly as firms assess where to locate future capacity.

<sup>4</sup> [Building Canada's Future Electricity Grid: A Supply Chain and Policy Roadmap](#). Prepared for Electro Federation Canada by Dunsky Energy + Climate Advisors. January 2026.

<sup>5</sup> EFC Member Survey Data.

<sup>6</sup> [The IRA and CHIPS Act are supercharging US manufacturing construction](#). Niels Graham, Atlantic Council. February 13, 2024.

In this context, federal action should focus not only on expanding domestic capacity, but also on ensuring access to reliable and diversified global supply chains for the full suite of equipment required to build and modernize Canada's electricity system.

### **Peak Demand and Demand-Side Measures**

In addition to supply-side investment, demand-side measures will be critical to meeting Canada's electricity needs in a cost-effective manner.

Grid expansion alone will not be sufficient to meet Canada's growing electricity needs in the most efficient and cost-effective manner. Managing peak demand through demand-side measures is an essential complement to infrastructure investment.

Measures such as energy efficiency, load shifting, demand response, and customer-side technologies can reduce system strain, defer or avoid costly infrastructure investments, and improve overall system affordability. These measures are widely recognized as among the most cost-effective tools available to utilities and system operators.

While responsibility for demand-side programming largely sits with provinces, utilities, and regulators, the federal government can play an important enabling role. This includes supporting program design, facilitating information sharing, and ensuring that federal policies and programs support broader adoption.

Embedding demand-side measures as a core component of Canada's electrification strategy will be critical to managing peak demand and ensuring that system growth is both reliable and affordable.

### **Federal Priorities**

To support electrification, strengthen energy security, and enable deployment at scale, EFC has identified several near-term priorities for the federal government:

First, the federal government can strengthen domestic manufacturing capacity for critical grid technologies through targeted investment tools and tax measures, including expanding existing manufacturing investment tax credits to better capture key grid equipment.

At the same time, policy approaches must reflect the reality that not all equipment will be produced domestically. Federal action should also focus on securing reliable and diversified supply chains for the full range of electrical equipment required to build and maintain the system, including components that will not be manufactured domestically. This includes strengthening access to international supply and supporting the conditions needed for firms to invest in Canadian capacity.

Second, regulatory modernization will be required to enable the deployment of advanced grid and demand-side technologies. Current frameworks often favour traditional, capital-intensive approaches and do not fully enable emerging solutions.

Third, accelerating codes, standards, and interoperability efforts will be critical to enabling deployment at scale and ensuring consistency across jurisdictions.

Fourth, federal support for demonstration projects and pilot programs can help build the evidence base needed to reduce risk and accelerate technology adoption.

Finally, providing long-term policy and investment certainty will be essential to enabling industry to plan and invest with confidence, both in manufacturing capacity and in supporting supply chains. This should include launching critical grid supply-chains initiatives that work with industry to identify priority bottlenecks and co-invest in capacity expansion, including retooling, new production lines, testing infrastructure, and long-lead manufacturing equipment. Industry is best positioned to help identify where targeted investment can be most effective and where capacity expansion would have the greatest impact on deployment timelines and system resilience. This would also align with pillar 4 of the federal National Electricity Strategy, which is focused on expanding domestic manufacturing of grid technologies and components in Canada.<sup>7</sup>

Further detail on the actions the federal government can take across these areas is outlined in the appendix to EFC's Grid Technology Roadmap, which identifies specific actions available to the federal government.<sup>8</sup>

## Conclusion

Canada has a clear opportunity to advance electrification in a way that strengthens economic growth, improves system resilience, and enhances energy security.

The technologies required to support this transition are largely available today. The priority now is to ensure that they can be deployed at the pace and scale required.

This will depend on addressing barriers to deployment, strengthening both domestic manufacturing and global supply chains, and enabling the adoption of advanced grid and demand-side solutions. It will also require targeted action to address critical supply-chain bottlenecks and provide the long-term policy certainty needed to attract investment in Canadian manufacturing capacity.

EFC and its members stand ready to support government, utilities, and regulators in this work and to contribute practical, industry-informed perspectives as Canada advances its electrification and energy security objectives.

## Key Recommendations

Read the full Dunskey Energy Report and policy Roadmap located in the appendix: [Building Canada's Future Electricity Grid: A Supply Chain and Policy Roadmap](#)

To support electrification, strengthen energy security, and enable deployment at scale, EFC recommends the following actions:

- 1. Expand the Clean Technology Manufacturing Investment Tax Credit to include strategic grid technologies.**

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<sup>7</sup> [Prime Minister Carney announces forthcoming National Electricity Strategy](#). May 14, 2026.

<sup>8</sup> [Building Canada's Future Electricity Grid: A Supply Chain and Policy Roadmap](#). Prepared for Electro Federation Canada by Dunskey Energy + Climate Advisors. January 2026.

This would strengthen domestic manufacturing capacity, support economic growth, and improve Canada's ability to supply critical equipment needed for grid expansion.

**2. Provide targeted financing and incentives to expand domestic supply chains and support demand for priority grid technologies.**

Targeted federal support can help scale production where Canada is competitive, while ensuring that industry can respond to growing system needs.

**3. Lead a national effort to modernize regulation, codes, and standards.**

Coordinated action is required to enable the deployment of advanced grid and demand-side technologies, reduce barriers to adoption, and support public policies aimed at electrification.

**4. Reopen federal smart grid funding programs to support pilots and demonstration projects.**

Demonstrations and pilot projects help build the Canadian evidence base, reduce deployment risk, and accelerate the adoption of advanced and emerging technologies.

**5. Launch a federal critical grid supply chains initiative.**

This initiative should work with industry to identify and address priority bottlenecks in areas such as transformers, high-voltage equipment, and key materials inputs through targeted co-investment, coordinated supply chain planning, and support for capacity expansion.

**6. Support demand-side measures as a core component of Canada's electrification strategy.**

Federal policies and programs should help manage peak demand, improve system affordability, and complement grid expansion through energy efficiency, load flexibility, and customer-side solutions.

**About EFC**

Electro-Federation Canada (EFC) represents more than 230 member companies that manufacture, distribute, market, sell, and maintain a wide range of electrical and automation products contributing to Canada's net-zero future, including advanced technologies such as intelligent buildings, smart infrastructure, and Industry 4.0. The electrical and automation industry is the technology, innovation experts, and supply chain partners needed for a net-zero economy. We are powering a changing world. EFC members contribute over \$15.1 billion to the Canadian economy annually and support over 109,000 jobs across the country. EFC, a national not-for-profit association, empowers the Canadian electrical and automation industries with business intelligence, industry research, professional development, community networking and promotes a collective collaborative voice for advocacy and standards advancement. Discover our membership footprint.

**Our Vision:** Powering a better Canada through electrification and automation.

**Our Mission:** Empowering the Canadian electrical and automation industries with business intelligence, professional development, and a voice for advocacy and standards advancement within a safe, collaborative environment.