

FROST & SULLIVAN

2024 Excellence in Energy Resourcefulness Award:

Alectra Utilities,
Canada

Introduction

Alectra Utilities (Alectra), Canada's largest municipal, is at the forefront of the nation's ambitious plan to achieve zero net energy by 2035. Their modernization of infrastructure, especially transition to AMI 2.0, is key to managing the evolving energy landscape.

Powering Decarbonization and Modernization in Canada

Canada's commitment to decarbonizing its electric grid and achieving net zero emissions by 2035 presents both a significant challenge and an immense opportunity for utilities.

Alectra Utilities, which covers 17 communities across Ontario's Greater Golden Horseshoe, is uniquely positioned to lead this transformation. Formed in 2017 from a merger of utilities that adopted AMI technology as early as 2006, Alectra now faces the critical task of future-proofing its system as 75% of its meter fleet approaches end-of-life. Ignoring this aging infrastructure could lead to major costs, service disruptions, and hinder new energy technology integration.

Alectra Utilities proactively overcomes these challenges through a highly strategic transition to AMI 2.0. This next generation metering technology is not merely a replacement, it forms a foundational element that accelerates decarbonization initiatives, prepares for widespread electrification, and ensures continued customer satisfaction and operational efficiency in a rapidly changing energy environment. By carefully planning AMI 2.0 deployment, Alectra maintains seamless operations while driving Canada towards its ambitious clean energy goals. Over the past two years (2023 to 2025), Alectra has actively pursued a multi-faceted grid modernization strategy, with its AMI program critically enabling these advancements.

Frost & Sullivan recognizes Alectra Utilities as the 2024 Excellence in Resourcefulness for Energy recipient for its community-oriented water quality and operational efficiency programs.

The table below lists the criteria for measuring Alectra Utilities success for energy resourcefulness.

SOCIAL IMPACT	POOR	FAIR	GOOD	EXCELLENT
Delivering Superior Technology-Driven Resource Management				✓
Resource-Conscious Program				✓
Enhancing Overall Customer Experience and Engagement for Resourcefulness				✓
BUSINESS IMPACT	POOR	FAIR	GOOD	EXCELLENT
Well-Drafted Vision for Implementing a Technology Oriented Resourcefulness Strategy				✓
Yield Operational Efficiencies				✓
Enhances the Utility’s Profile as Pioneer and Proponent of Sustainability				✓

Societal Impact

Alectra Utilities’ modernization strategy directly contributes to societal well-being through advanced resource management, environmental stewardship, and enhanced customer empowerment.

Delivering Advanced Technology-Driven Resource Management

The transition to AMI 2.0 accelerates electrification and decarbonization initiatives and directly aligns with Canada’s national energy goals. Itron’s Gen5 Riva meters and Utility IQ software enables real-time decision making through comprehensive electricity consumption data. This approach enhances the integration of grid edge technologies such as distributed energy resources (DER) and electric vehicles (EVs), leading to a more resilient, efficient, and sustainable energy grid for communities. Alectra’s “Control Room of the Future” with real-time system visibility further ensures optimal management of multi-directional flows and dynamic grid operations.

Resource-Conscious Program

AMI 2.0 provides customers with new insights into their energy usage, fostering greater awareness and enabling more resource-conscious consumption habits. Alectra's strategic management of its aging meter fleet, by reusing temporary meter replacements, demonstrates a commitment to resourcefulness and minimizing waste during the transition.

Furthermore, its significant capital investments in infrastructure renewal, including cable injection technology to extend the life of underground cable without extensive digging, represent a cost-effective digging, represents a cost effective and environmentally friendly approach to prevent outages and conserve resources.

Enhancing Overall Customer Experience and Engagement for Resourcefulness

Offering customers new insights into their energy usage, AMI 2.0 empowers them to make informed consumption decisions. This supports advanced customer engagement, allowing individuals to actively participate in energy management and contribute to overall resourcefulness, ultimately improving their experience with the utility. Alectra's customer-centric investment planning directly incorporates customer feedback on needs and priorities into its five-year plans. The launch of digital tools like "My Alectra" and interactive web tools provide customers with easy access to track usage, manage accounts, understand bills, and explore rate plan options, enhancing their ability to manage energy effectively.

Business Impact

Alectra's forward-thinking approach yields significant business advantages, strengthening its operational foundation and leadership position.

Well-Drafted Vision for Implementing a Technology Oriented Resourcefulness Strategy

Alectra's history of early AMI adoption and its current strategic transition to AMI 2.0 demonstrate a clear and consistent vision for leveraging technology to "future-proof" its system. This proactive approach aims to avoid major costs, prevent disruption of existing communication meshes, and avert customer billing service interruptions, showcasing a robust long-term planning strategy. This vision extends to its pursuit of a Distributed System Operator (DSO) model, transitioning from a network operator to a platform orchestrator that designs and deploys end-to-end solutions using emerging energy technologies.

Its investments in infrastructure renewal, including upgrading and building new substations, reflect a comprehensive strategy to enhance reliability and meet growing demand.

Yield Operational Efficiencies

The strategic deployment of AMI 2.0 meters, prioritizing territories deemed highest risk first, and the practices of “breadcrumbing”, which essentially means creating meter trails from micro meshes to ensure seamless communication). This approach highlights a meticulous approach to maintaining operational continuity and efficiency during a large-scale infrastructure upgrade. This approach aims to minimize potential downtime and optimize resource allocation.

Enhances the Utility’s Profile as Pioneer and Proponent of Sustainability

These initiatives combined positions Alectra as a sustainability advocate, boosting its reputation among customers, stakeholders, and the industry. Its initiatives, like IESO York Region NWA Project, showcases innovative strategies for offsetting demand and optimizing critical infrastructure.

Conclusion

Alectra Utilities earns recognition for excellence in resourcefulness through its proactive and comprehensive approach to grid modernization. By strategically transitioning to AMI 2.0, investing heavily infrastructure modernization, and implementing DER integration. Alectra not only ensures reliable and efficient energy delivery but also actively drives Canada’s decarbonization goals. Its commitment to operational efficiency, customer empowerment through data insights, and sustainable practices positions its as a leading example of a utility effectively managing resources for a resilient and future ready energy landscape.



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