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Regulatory and policy considerations for utility wildfire risk



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Wildfires are an escalating threat to Canada's electricity system. As their frequency and intensity are rising, their duration is lengthening, and they are becoming more difficult to contain. Electricity disruptions caused by wildfires pose a significant threat to energy security, as Canadians expect and rely on a stable and consistent electricity supply. Ensuring energy resiliency in the face of increasing wildfire risk is an essential consideration for both utilities and regulators when conducting system planning.

Exposure to wildfire risk varies based on factors such as weather, geography, system configuration, and asset mix. Risk mitigation practices will differ based on management techniques and asset conditions and will continue to be shaped by each jurisdiction's regulatory and operational context. While different regions across Canada may require tailored approaches to managing increasing wildfire risk, the need for enhanced resilience to climate-related threats and increased investment in climate adaptation is consistent nationwide.

Historical data shows that most wildfire risk to the electricity system stems from factors external to the sector's operations, such as forest management practices and climate trends. The electricity sector continues to manage ignition risks arising from electrical infrastructure and manage exposure to these external risks to ensure system resiliency. The Government of Canada, through its wildfire strategies, has identified the importance of a 'whole-of-society' approach when addressing wildfire risk. This approach has been further supported through the [Canadian Council of Forest Ministers](#), and emphasizes the importance of continuing to review and update practices for wildfire management.

To manage wildfire risk effectively, utilities require higher investment across a range of assets and strategies. Utilities are increasingly integrating wildfire risk management into their broader asset management systems to support appropriate infrastructure monitoring, maintenance, and improvement.

Prevention, adaptation, and response

As wildfire exposure increases, utilities are placing greater emphasis on prevention strategies while continuing to assess the need for adaptation. For many utilities, this will require increased investment in monitoring and managing. These efforts are increasingly focused on optimizing standard prevention measures and pursuing new opportunities to advance both prevention and adaptation.

Operational measures

Preventing ignitions requires robust strategies and tools to manage assets, operations, and vegetation, all of which influence wildfire risk. For example, vegetation within and adjacent to rights-of-way and other infrastructure can serve as both an ignition source and a catalyst for fire spread. The risks can be exacerbated by land-use policies that mandate narrower rights-of-way or reduced vegetation management. Utilities are responding with enhanced monitoring plans that include more frequent inspections and maintenance in higher-risk areas.

Increased maintenance and enhanced operating procedures, with a greater focus on wildfire risk mitigation, will raise costs for maintenance, training, system upgrades, and vegetation management, potentially affecting future rates. These investments in wildfire prevention and information management are necessary to manage wildfire risks and should be recognized by regulators as relevant and required expenditures.

Situational awareness

Situational awareness for wildfires involves monitoring environmental conditions, detecting fire activity, maintaining system awareness, and ensuring operational readiness. Enabling fast, informed decision-making to address potential risks and hazards is essential, as rapid detection can improve suppression response times and reduce overall damage. Utilities are actively monitoring factors that exacerbate risk and implementing enhanced operational responses during periods of elevated wildfire risk.

Monitoring for wildfire detection and accessing risk-based data are increasingly costly operational expenses for utilities. Regulators can play a proactive role in supporting the adoption of such programs, helping ensure that utilities can access this information and have the capacity to interpret it accurately and in a timely manner.

Public Safety Power Shutoffs (PSPS)

Public Safety Power Shutoffs (PSPS) require greater attention in Canada. Regulators should work closely with utilities and stakeholders in an efficient, coordinated manner and provide clear leadership in establishing policies and procedures that are workable for all parties. De-energization policies should be informed by utility expertise and evaluated against key objectives, including wildfire risk mitigation, grid reliability, and public safety.

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Training

Personnel training increases awareness of wildfire risks and reduces the utility's exposure to safety risks. Utilities are pursuing new training initiatives to better manage wildfire exposure and reduce risks to system operations and overall safety. As more advanced monitoring and management systems are implemented, employee training costs will rise. Regulators should recognize and support these investments to ensure they effectively influence operational practices and mitigate risks.

Data and information sharing

The development, implementation, and continuous improvement of Wildfire Risk Mitigation Plans generate significant qualitative, quantitative, and geospatial data. Utilities establish data management practices to understand the types and quantities of data they hold, enabling them to analyze information efficiently and support strategic planning initiatives.

Many utilities affected by wildfires in recent years have also developed performance metrics and monitoring programs to document their prevention and mitigation activities, including evaluations of mitigation investments, inspections, and system hardening. These processes incur additional costs, and regulators should support such initiatives in approved utility expenditures.

In some jurisdictions, utilities are also recording wildfire data, outages, and faults to identify trends in incident occurrences. The goal is to use these trends to inform targeted activities that mitigate the risk of future wildfires. Utilities that seek to capture and store related data should be supported in their funding requests to develop and maintain such an information system.

Collaborative planning

Wildfire risk is a shared responsibility among individual members of the public, private organizations, and public organizations; a key part of this cooperation is having proper communication plans.

Companies are developing external communications plans, building collaborative networks, and conducting annual preparation reviews to be prepared for the wildfire season. This is a lengthy and detailed process that involves coordinating many stakeholders, and regulators should consider the cost of developing multidimensional wildfire strategy plans.

Managing risk through legislation

In certain jurisdictions, utilities are guided by wildfire legislation that shapes their operational practices. As wildfire risk profiles evolve, existing legislation may need to be revisited or adjusted to ensure it effectively supports risk management. In many cases, current legislative frameworks do not fully address the complexities of wildfire mitigation. A review of relevant legislation is therefore necessary to ensure policies are structured to enable utilities and regulators to manage wildfire risks and enhance system resilience.

System hardening

Implementing wildfire risk mitigation actions to protect utility infrastructure from damage caused by an encroaching wildfire is core to system hardening. These measures can be both passive and active. Passive protection for utility assets includes fire-resistant construction materials, infrastructure design, and environmental modifications made before a wildfire event. Active protection is achieved through the installation of systems (e.g., sprinklers) that are deployed immediately before or during a wildfire event. Active protection is generally carried out by emergency response crews and is often applied to more valuable and critical infrastructure.

System hardening actions vary across jurisdictions. Some utilities conduct extensive risk identification for infrastructure, examining wildfire risk factors such as vulnerability and exposure thresholds to wildfire hazards. Companies may also consider the cost and difficulty of replacing infrastructure as part of system hardening assessments.

System hardening encompasses a range of investments found in rate filings to protect assets from fire damage and reduce the likelihood of ignition. Some of these enhancements will be upgrades to existing equipment, for example, replacing wood poles with composite poles or covering them with fire-resistant wrap.

Condition monitoring is a continuous activity necessary for effective system management. This expenditure is required to ensure a resilient and reliable grid. As investment in these initiatives increase, regulators can play a supportive role by ensuring an appropriate balance between costs and the level of wildfire risk mitigation achieved. Through the review and approval of adequate expenditures for system hardening, proven technologies, and research and development investments, regulators can help enable long-term system reliability as system conditions continue to change.

Other emerging considerations

Insurance and liability

Insurance availability and affordability are becoming concerns for utilities due to the potential impact of increased wildfire risk on insurance availability. Some jurisdictions in the U.S. have introduced protections that could shield electric utilities from bankruptcy-causing lawsuits if their equipment starts a catastrophic fire, provided they have implemented reasonable measures to reduce ignition risks.

Credit profiles

Due to the increasing wildfire risk, credit rating agencies are also reviewing utility operations and credit profiles. Coordinating efforts across regulators, governments, and utilities to implement comprehensive wildfire programs will help ensure the sustained financial integrity of not only Canadian utilities but also major industrial consumers.

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Affordability

Proactive management of wildfire risk can help keep electricity costs more stable over time by reducing the likelihood of severe damage, prolonged outages, and costly emergency repairs. When wildfire risks are not proactively addressed, the resulting impacts can lead to significant, unplanned spending that ultimately puts upward pressure on customer rates. Investing in prevention and adaptation allows utilities and regulators to manage costs more predictably while protecting system reliability and limiting the financial impacts of major wildfire events.

Damage recovery Mechanisms

Utilities must have access to funding for rapid grid restoration. In situations where utilities have limited access to sufficient restoration funds, dedicated deferral accounts can help ensure resiliency. Without sufficient damage recovery, customers cannot count on reliable service from their utility. Regulators and governments should actively pursue alternative funding methods to ensure system resiliency and energy security.

Conclusion

Wildfire risk management offers a shared opportunity for utilities, regulators, governments, and stakeholders to proactively reduce exposure and strengthen system resilience. Effective wildfire mitigation is best advanced through collaborative approaches that balance risk, cost, and system reliability. As wildfire risk profiles continue to evolve, coordinated decision-making and supportive regulatory frameworks can enable timely, targeted investments that reduce overall risk and deliver long-term benefits across the system.

Key takeaways for regulators and policymakers

Recognize wildfire mitigation investments as essential grid resiliency measures

- Explicitly recognize wildfire prevention and mitigation spending, including vegetation management, enhanced inspection regimes, and standard operating procedures (SOPs), as core utility expenditures.
- Ensure rate-setting processes accommodate higher costs for asset monitoring, vegetation management, and infrastructure upgrades in high-risk zones.

Support data-driven wildfire risk planning and reporting

- Support utilities in developing and maintaining Wildfire Risk Mitigation Plans and data management systems.
- Support utility funding requests for geospatial and performance data tracking and standardize wildfire incident reporting to inform sector-wide best practices.

Support situational awareness and emergency response capabilities

- Ensure utilities have adequate funding to implement real-time weather and fuel monitoring systems.
- Encourage the review of Public Safety Power Shutoff (PSPS) protocols to ensure utility expertise leads emerging policy.
- Review federal and provincial legal frameworks to ensure appropriate protections related to potential industry-caused ignitions.
- Establish a formal coordination mechanism between the electricity industry and Parks Canada to address vegetation management on federal lands.

Enable and prioritize system hardening and asset resilience

- Approve utility investments in fire-resistant materials, infrastructure redesign, and active and passive wildfire protection systems (e.g., fire wraps, composite poles, sprinkler systems).
- Introduce a resiliency tax credit and/ or a targeted funding program to support weather hardening of electricity infrastructure and to protect the system from growing exposure to extreme weather events (including wildfires, ice storms, windstorms, floods, and tornadoes).
- Facilitate research and development funding and pilot projects to test emerging hardening technologies and infrastructure risk-reduction strategies.