

Municipal Oversight Brief: BESS Risks & Local Authority

A Council's Guide to Battery Energy Storage Projects in Canada

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About This Report

This report was developed to help Canadian municipalities navigate the complex and high-stakes decisions surrounding Battery Energy Storage System (BESS) projects. As provinces accelerate grid transitions and private developers move quickly to secure land-use permissions, many small and rural councils are facing pressure to approve these installations without full transparency. This document offers an evidence-based review of BESS projects from a municipal perspective—focusing on cost, safety, environmental impact, and long-term liability.

1. Executive Summary

Battery Energy Storage Systems (BESS) are being marketed to municipalities across Canada as key components of the "clean energy transition." Developers frame these projects as safe, necessary, and beneficial to the public. In practice, most BESS projects are privately owned industrial sites that profit from electricity market speculation and provincial subsidies—while leaving municipalities to manage fire risk, public concern, emergency response, and eventual decommissioning.

A typical BESS facility stores grid electricity in lithium-ion batteries when prices are low, and resells it at peak rates. The system is designed for profit, not local energy access. Developers receive guaranteed payments from provincial grid operators, while ratepayers cover the cost of generation, storage, and repurchase. Municipalities receive no direct revenue from energy trading and no ownership of the infrastructure. Meanwhile, local governments must oversee permitting, fire response planning, public consultation, and potential environmental or liability issues.

This report provides a detailed breakdown of the risks, responsibilities, and red flags associated with BESS approvals. It also includes a list of questions councils should ask, a sample resolution for municipalities to pause or decline participation, and a guide to asserting local authority in energy development decisions.

2. Understanding BESS: Function, Finance, and Framing

What It Is

A Battery Energy Storage System (BESS) is an industrial-scale facility that stores energy in lithium-ion battery containers—each the size of a shipping container—linked to the provincial power grid. These units include transformers, inverters, monitoring systems, and control software. Projects vary in size, but many range from 50 to 250 megawatts, covering several acres.

How It Makes Money

Developers profit in two ways:

- **Capacity Payments** – Grid operators pay developers simply to be "available" during peak demand. These payments are guaranteed, even if the batteries are never used.
- **Energy Arbitrage** – Electricity is purchased from the grid at off-peak prices and resold at peak rates. Developers pocket the price spread, without generating any new energy.

Who Pays?

The public pays at every stage:

1. To generate the original electricity through hydro, nuclear, or wind;
2. To subsidize battery storage via provincial programs;
3. To repurchase stored energy at peak markup rates.

What Municipalities Are Told

Developers frame these proposals as green infrastructure partnerships—but they are not public projects. They are speculative investments that need local zoning approval and land-use permissions to proceed. Once approvals are secured, ownership may be transferred to private investors, foreign firms, or asset management companies.

3. Risk Areas for Municipalities

A. Fire and Public Safety

Lithium-ion battery fires are rare, but catastrophic. Thermal runaway can create intense fires lasting hours or days, releasing hazardous gases including hydrogen fluoride. These events require specialized response strategies, which most municipal fire departments lack. Several global incidents have led to injuries, evacuations, and environmental contamination. No project should proceed without a third-party fire safety plan and developer-funded training and equipment for local responders.

B. Environmental Risk and Upstream Impacts

While framed as clean energy, BESS projects rely on overseas mining and manufacturing. The lithium, cobalt, and graphite used in battery cells are extracted in jurisdictions with known environmental degradation and labour violations. The facilities themselves can leak, burn, or require hazardous cleanup. Canada lacks a full closed-loop recycling system for utility-scale batteries. Disposal and long-term storage are unresolved.

C. Property and Insurance Impacts

Locating a BESS near homes can trigger higher insurance premiums, denied coverage, and reduced property values. There is currently no standardized compensation model for affected residents.

D. Fiscal Liability and Staff Time

Municipal planners, legal staff, and emergency personnel are required to review and coordinate these projects—often without compensation. If a developer dissolves or abandons a site, the cost of decommissioning and environmental remediation can fall to the municipality.

4. The Push for Rural and Small-Town Approvals

BESS proponents prefer rural areas for several reasons:

- Lower land costs
- Easier access to hydro corridors and transmission lines
- Limited staff capacity to analyze complex proposals
- Lower likelihood of organized opposition

These councils are often assumed to lack the technical knowledge or legal support to fully scrutinize the project. Proponents rely on familiar buzzwords like “clean energy,” “grid modernization,” and “helping the province transition to net-zero” to frame their proposals as beneficial. In reality, these are private profit-driven ventures with no meaningful benefit to the host community.

These projects do not offer local electricity access, do not generate municipal revenue, and do not deliver lasting jobs. What they do bring are long-term liabilities: fire risk, property devaluation, insurance complications, and eventual decommissioning costs.

Councils must recognize that they are being approached not because they’re key partners in a transition, but because they’re seen as easy targets—jurisdictions less likely to push back. Understanding this dynamic is essential. These are not local energy partnerships; they are speculative corporate installations that depend on local governments granting land use and zoning approvals without fully understanding the risks or asking who benefits.

Municipalities should not feel pressured to participate. Approval is voluntary. Under the Municipal Act, councils are responsible for resident safety, financial prudence, and land stewardship—not for meeting private investment timelines or provincial procurement targets.

5. Sustainability vs. Stewardship: What's Council's Role?

The term “sustainability” has been co-opted into global economic programs and carbon trading schemes. A project may claim to be sustainable while depending on coal-fired Chinese manufacturing, lithium mined in water-stressed regions, and shipping across the Pacific. These emissions and costs are not reflected in provincial program materials.

Environmental stewardship, on the other hand, is a legal and ethical responsibility under the Municipal Act. It means safeguarding air, land, water, and residents within your jurisdiction. It requires local consent, transparency, and accountability.

Approving a BESS project without clear local benefit, verifiable risk controls, or enforceable restoration plans is not stewardship—it's liability transfer.

6. Council Questions Checklist

Use this list to guide staff reports, public consultations, and developer meetings:

Ownership & Control

- Who owns the project entity today?
- Can the project be sold or transferred without council input?

Risk and Emergency Response

- Has a fire plan been submitted and reviewed by the local fire department?
- Who pays for firefighter training, response equipment, and overtime?
- Is there a defined evacuation radius for smoke or explosion scenarios?

Local Benefit & Economic Impact

- Will any revenue flow to the municipality or residents?
- How many permanent local jobs will the facility create?
- What protections exist for property owners nearby?
- Will insurance costs for neighbouring properties increase as a result of this installation?
- Has the potential for nearby property devaluation been assessed and addressed?

Environmental and Ethical Standards

- Where are battery components manufactured?
- Are ethical labour and environmental sourcing verified?
- What is the full environmental cost of mining, processing, shipping, and disposal?

Decommissioning and Long-Term Liability

- What is the guaranteed lifespan of the facility?
- Is there a binding, fully funded decommissioning agreement?
- What happens if the developer dissolves or defaults?

Governance and Transparency

- Has an independent peer-reviewed risk study been shared publicly?
- Was there a public meeting with independent experts?
- Do local residents support the proposal?

7. Recommended Municipal Actions

Municipal councils are being asked to greenlight high-risk industrial energy storage projects with no proven local benefit, no guaranteed revenue, and unresolved safety and environmental concerns. The financial structure is designed to favour private profit while offloading long-term costs and emergency obligations to local governments and taxpayers. These projects offer no direct electricity access to residents, create few if any permanent jobs, and provide no revenue-sharing model for host municipalities. In light of these imbalances, councils are well within their authority—and duty—to pause or reject proposals outright.

1. Pause or Decline

Do not approve any BESS proposal until the municipality has received:

- An independent, third-party, peer-reviewed risk assessment covering fire, environmental, fiscal, and supply chain impacts;
- A legal review of the developer's ownership, transfer rights, and liability structures;
- Confirmation that local emergency services have reviewed the application and support its feasibility. A pause is not a rejection—it is a responsible delay to ensure informed, transparent decision-making.

2. Demand Cost Recovery

Developers must cover 100% of local costs tied to their project, including:

- Firefighter and emergency responder training;
- Specialized equipment (e.g. foam, thermal cameras, PPE);
- Legal review, planning hours, community consultation, and permit processing. Include cost-recovery terms in any conditional agreement. Without them, the municipality is subsidizing a private business with public funds.

3. Require Safe Siting

Set minimum setbacks for all BESS projects, including:

- 500–1,000 metres from any residential, institutional, or recreational property;
- Minimum distances from schools, hospitals, and watercourses;

- Prohibitions on siting in areas with limited fire access or high evacuation vulnerability. Councils should not rely on developers' maps alone—commission an independent siting review.

4. Insist on Transparency

Require meaningful and public engagement before approvals:

- Host at least one public meeting facilitated by independent, non-affiliated experts (not company reps);
- Publish risk assessments, fire plans, and site layouts in advance of council deliberation;
- Provide space for resident deputations and written submissions.
Transparency builds trust and allows informed public feedback.

Transparent governance requires more than disclosure—it demands consent. If residents oppose a proposal, that must be treated as a decisive factor. Councils have the authority and responsibility to reject BESS projects that lack community support.

5. Mandate Decommissioning Bonds

Do not accept vague "restoration plans" or token deposits. Require:

- A legally binding decommissioning agreement that includes:
 - Full hazardous material removal;
 - Soil and groundwater testing;
 - Site restoration to pre-construction condition;
- A secured financial bond (not a letter of intent) sufficient to cover all work, indexed for inflation. If the developer walks, the municipality should not be left cleaning up a toxic site.

8. Sample Municipal Resolution

Motion Title: Pause or Decline Approval of Battery Energy Storage System (BESS) Project

WHEREAS [Municipality] has been approached to host a Battery Energy Storage System (BESS); and

WHEREAS Council affirms its duty to represent residents, ensure fiscal integrity, and protect the environment; and

WHEREAS BESS projects pose documented fire, environmental, insurance, and long-term liability risks; and

WHEREAS the municipality receives no guaranteed local energy access, job creation, or share of revenue;

BE IT RESOLVED THAT COUNCIL:

1. Declines approval until a third-party, peer-reviewed risk and benefit assessment is completed and shared publicly;
2. Directs staff to prepare a report on:
 - All expected municipal costs;
 - Fire and emergency planning;
 - Siting criteria and zoning implications;
3. Requires the developer to fund all emergency preparedness and response costs;
4. Suspends zoning or permitting until public benefit is demonstrated and a binding decommissioning agreement is in place;
5. Communicate this resolution to the province, the IESO, the Federation of Canadian Municipalities (FCM), and any municipal associations or caucuses of which [Municipality] is a member.


6. **Moved by:** _____ **Seconded by:** _____

Date: _____

Status: Carried / Deferred / Defeated

9. Next Steps for Municipal Leaders

- Share this report with council colleagues, CAOs, and planning staff.
- Ask for a staff report on BESS implications in your community.
- Organize a public meeting or deputation.
- Contact KICLEI for tools, petitions, meeting templates, and resources.

 Email: info@kiclei.ca

 Web: www.kiclei.ca