MPSS
Mountain Power Storage Solutions

BESS Investment Analysis

Behind-the-Meter Battery Energy Storage

10 MW / 20 MWh • Ontario, Canada

4.0 yrs	21.0%	$12.6M	$31.9M
PAYBACK	15-YR IRR	NPV @ 8%	15-YR CUMULATIVE

SAMPLE REPORT — IMPORTANT NOTICE

This is a sample report. The host customer described in this document is illustrative and does not represent any actual MPSS client. The financial structure, revenue calculations, and ROI projections are based on current Ontario market data, published IESO market information, and federal tax legislation as understood at the time of preparation. The assumptions are intended to represent a favourable but realistic Ontario Class A industrial host profile. Actual results depend on site-specific load shape, IESO registration and market eligibility, dispatch performance, tax position, project cost, degradation, interconnection requirements, and future market or legislative changes.

Based on current Ontario market data and federal tax policy as of Q1 2026 — not a guarantee of any specific result.

Prepared by MPSS • Mountain Power Storage Solutions • Q1 2026

Executive Summary

This analysis evaluates a **10 MW / 20 MWh behind-the-meter (BTM) Battery Energy Storage System** deployed at **Your Company** in Ontario. Structured as a direct asset purchase at **$20,000,000 turnkey installed cost**, the system is modelled across six potential Ontario revenue and value streams — through optimised dispatch across the year — alongside substantial Year-1 federal tax recovery.

The 2025 IESO Capacity Auction (held November 26–27, 2025, with results published in early December 2025) cleared at multi-year highs, the federal **Clean Technology Investment Tax Credit** is available at up to 30% refundable subject to labour requirements, and the **Accelerated Investment Incentive** reinstated under Bill C-15 (Royal Assent March 26, 2026) delivers up to 100% Year-1 expensing on eligible Class 43.1 property acquired through 2029. Together these create a deployment window that may materially improve project economics over the next 36 months, subject to eligibility and tax position.

Headline Financial Outcomes

Metric	Value	Detail
Gross annual revenue (Year 1)	**$3,972,759**	5 base + 1 upside
Year 1 net cash flow (incl. ITC + CCA shield)	**$11,511,978**	After tax @ 26.5%
Simple payback	**3.99 years**	Capital fully recovered
15-year IRR	**21.0%**	Modeled horizon
NPV @ 8% discount rate	**$12,634,130**	15-year value
15-year cumulative net cash	**$31,922,145**	**After-tax, after O&M**

Three Reasons This Works

- **Diversified value stack.** In the base case, no single modelled value stream represents more than approximately 43% of gross Year-1 value. The stack is intended to be resilient if any individual market softens.
- **Stacked federal incentives may reduce effective net capital outlay from $20M to roughly $11.26M.** A refundable Clean Tech ITC of up to $5.4M plus a Year-1 CCA tax shield of approximately $3.34M can collapse a meaningful portion of the capital outlay into Year 1, subject to labour-requirement compliance and sufficient taxable income.

- **Closing tax window.** 100% Year-1 expensing under the AII for Class 43.1 property begins phasing down after 2029. Deployment before that phase-down may capture maximum first-year value.

Host Profile & Operating Context

Your Company is a large industrial electricity consumer in the IESO grid that exhibits the operating characteristics ideally suited for a behind-the-meter BESS deployment. The host's load profile — high peak demand, continuous operation, and concentrated peak-hour exposure — directly maximizes the revenue available from every category of the six-stream stack analyzed in this report.

Load & Demand Characteristics

Parameter	Value	Implication for BESS
Peak demand	**52 MW**	10 MW BESS = 19% of peak — ideal sizing ratio
Annual consumption	**325 GWh**	Class A customer — eligible for ICI
Load factor	**71%**	High average load with sharp summer peaks
Operating profile	Continuous 24/7	Persistent exposure to all 5 GA peak hours
Peak-hour concentration	Summer 14:00–19:00	Aligns with all 5 historical ICI peak hours
Grid connection	44 kV transmission	Capable of OR / capacity-auction participation
Process tolerance	High (sub-second sensitive)	Strong BTM resilience value

Why This Host Profile Is Optimal

Peak-hour concentration drives ICI value. The host's production schedule places its highest demand during the summer 14:00–19:00 window — precisely the period when Ontario's five system-coincident peak hours occur. The closer the host's load is to those peak hours, the higher its peak-demand factor, and the larger the share of Global Adjustment it pays. Shifting just 10 MW of demand away from those five hours produces an outsized reduction in the annual GA bill.

Load factor of 71% means consistent participation in availability-based markets. Unlike a peakier host whose demand collapses for half the year, **Your Company** operates near full capacity year-round. The BESS can therefore be reliably committed into the IESO Capacity Auction and Operating Reserve markets without conflict with host load requirements.

Process sensitivity to voltage and frequency events creates real BTM value. Modern continuous-process industrial operations lose meaningful production for every voltage sag, harmonic distortion event, or brief grid disturbance. A BESS with sub-second response provides real economic value beyond grid-facing revenue streams.

The Six-Stream Ontario Revenue Stack

A behind-the-meter BESS in Ontario is not a single-purpose asset. It is a **multi-function platform** that can address several distinct value streams through optimised dispatch across the year, each with independent market mechanisms and pricing. The categories below quantify a modelled annual value opportunity for the **10 MW / 20 MWh** configuration deployed at the host site described above.

> **Dispatch caveat.** *A BESS does not earn all value streams at full output in the same hour. The figures below are modelled annual values that assume realistic, optimised allocation of power and energy across capacity availability, operating reserve, energy arbitrage, peak shaving (ICI) and behind-the-meter services. Achieving the modelled total requires sound forecasting, dispatch optimisation, market registration, and ongoing operational performance.*

Category 1 · Global Adjustment Peak Shaving (ICI)

Overview

Global Adjustment is the largest single component of electricity cost for Ontario Class A customers — historically over 60% of the all-in bill. Under the Industrial Conservation Initiative (ICI), **Your Company** pays GA in proportion to its share of the province-wide load during the **top five coincident-peak hours** across a 12-month base period (May 1 – April 30).

The BESS discharges at full 10 MW during the five highest-probability peak hours each year, reducing the metered demand attributable to **Your Company** and lowering its peak demand factor for the subsequent settlement year.

Calculation

Peak-shaving capability	10 MW × 2 hours per peak
Avoided GA value (industry benchmark)	$160,000 per MW-year
Peak-prediction performance assumption	High-capture managed service
Annual GA reduction	**$1,600,000**

Note: This stream represents approximately 40% of modelled gross Year-1 value. The $160K/MW-year benchmark reflects published Ontario industrial-host outcomes; managed-service providers report success rates that vary by year and weather. Peak-prediction performance is not guaranteed: capturing 4 of 5 peaks (instead of 5 of 5) reduces this stream proportionally; capturing 3 of 5 reduces it further. ICI sensitivity is presented in the ROI section.

Category 2 · IESO Capacity Auction

Overview

The IESO Capacity Auction is a forward-looking competitive procurement that pays qualified resources for committing to be available during defined commitment-period windows. The **2025 IESO Capacity Auction (held November 26–27, 2025, with results published in early December 2025)** cleared at $645.24/MW-business day for summer 2026 and $725.31/MW-business day for winter 2026–27 — multi-year highs reflecting tightening Ontario supply-demand conditions.

Capacity auction settlement is on a per-business-day basis across the summer (May–October) and winter (November–April) commitment periods. Storage resources are also subject to an Adequacy De-rating Factor (ADF) determined annually by the IESO. For modelling purposes a 0.95 ADF is applied here. Final qualification, registration and settlement depend on IESO eligibility rules, performance, and the resource's registered capability.

Calculation

Nameplate capacity	10 MW
Summer commitment ($/MW-business day × days)	$645.24 × 131
Winter commitment ($/MW-business day × days)	$725.31 × 130
Gross per-MW-year (before ADF)	$178,817
Adequacy De-rating Factor (ADF, illustrative)	0.95
Effective per-MW-year	$169,876
Annual capacity revenue (10 MW)	**$1,698,759**

Note: Capacity revenue depends on successful IESO registration and pre-qualification, the resource passing performance audits, and the ADF actually applied each commitment period. The $645.24 / $725.31 clearing prices are documented in published IESO 2025 capacity auction materials. Settlement is per business day, not calendar day, in the commitment-period definitions used here.

Category 3 · Operating Reserve Market

Overview

Operating Reserve compensates resources for standing ready to inject energy on short notice (10-second synchronized, 10-minute non-synchronized, 30-minute reserve). BESS systems are exceptionally well-suited to OR because of their sub-second response and full state-of-charge availability when not committed to other services.

Following the May 1, 2025 launch of the IESO's Market Renewal Program (MRP), Ontario OR clearing prices have strengthened relative to historical averages — with day-ahead 10-second prices reported in

the order of $10–$11/MW-hour of reserve capability and real-time prices in a similar range. **This may reflect tighter supply-demand conditions and richer ancillary-service signals under MRP**, though future levels remain subject to procurement outcomes, fleet additions and market-design changes.

Calculation

Capacity allocated to OR	5 MW (50% of nameplate)
Hours per year offered	6,000 hours
Average OR clearing price	$10 per MW-hour of reserve capability
Annual OR revenue	**$300,000**

Note: Operating Reserve revenue requires successful IESO market registration as an OR-eligible resource and ongoing performance against availability and dispatch obligations. Realised value depends on cleared prices, hours offered, opportunity costs against other services, and any required procurement-program qualification.

Category 4 · Energy Arbitrage (Ontario Zonal Price)

Overview

Under the IESO Market Renewal Program (effective May 1, 2025), the legacy Hourly Ontario Energy Price (HOEP) was replaced by the **Ontario Zonal Price** settled in both day-ahead and real-time markets. The new market structure may improve storage dispatch optimisation through clearer price signals. Actual arbitrage value depends on realised price spreads, congestion, transmission/distribution losses, round-trip efficiency, cycle availability after other services, and any associated charges.

The BESS charges overnight when zonal prices are lowest (typically 02:00–05:00) and discharges during peak afternoon hours (typically 14:00–19:00). The 17 MWh usable energy per cycle (20 MWh × 85% round-trip efficiency) is monetised 300 times per year against the prevailing day-ahead price spread.

Calculation

Usable energy per cycle	17 MWh (85% RTE)
Arbitrage cycles per year	300
Average price spread (day-ahead)	$40 per MWh
Annual arbitrage revenue	**$204,000**

Category 5 · Behind-the-Meter Demand & Resilience Value

Overview

Beyond grid-facing revenue, the BESS delivers direct on-site value to **Your Company** through reduced non-coincident peak demand charges, improved power quality, voltage support for sensitive production equipment, and short-duration backup power during voltage sags and brief outages.

Calculation

Demand-charge mitigation (non-coincident peak)	$110,000 / year
Power-quality & ride-through value	$60,000 / year
Annual BTM value	**$170,000**

Note: BTM value assumes engineered support for selected critical loads, not full-facility backup of the entire 52 MW site. Demand-charge mitigation depends on local rate structures and concurrent dispatch obligations to grid services.

Potential Upside: Contracted Regulation Service

Frequency regulation is the second-by-second balancing service used to maintain grid frequency. BESS are technically well-suited because they respond bidirectionally within sub-second timeframes. **Regulation revenue is excluded from the base case** because Ontario regulation procurement remains primarily a contract-based service rather than an open competitive market open to all storage resources, and clearing prices are not publicly indexed in a way that supports a defensible base-case forecast.

For illustrative purposes only, a representative contracted-regulation outcome of approximately **$87,600 / year** (5 MW allocated, ~1,752 hours, ~$10/MW-hour) is presented as upside in the ROI sensitivity table. Realising this value would require successful procurement participation, contract award, and ongoing performance.

Consolidated Revenue Stack

The table below consolidates the five base-case value streams into a single modelled annual operating picture for the **10 MW / 20 MWh** configuration in Year 1. Contracted regulation is shown separately as potential upside.

Revenue Stream	Annual Value	% of Stack
Global Adjustment Peak Shaving (ICI)	$1,600,000	40.3%
IESO Capacity Auction (business-day, ADF 0.95)	$1,698,759	42.8%

Revenue Stream	Annual Value	% of Stack
Operating Reserve Market	$300,000	7.6%
Energy Arbitrage (Ontario Zonal Price)	$204,000	5.1%
Behind-the-Meter Demand & Resilience	$170,000	4.3%
Gross Annual Revenue	**$3,972,759**	**100.0%**
Less: Year-1 O&M (warranty period)	($200,000)	
Year-1 Net Operating Revenue (pre-tax)	**$3,772,759**	

Memo — Potential upside (excluded from base case): Contracted Regulation Service approximately $87,600/year, subject to procurement contract.

Monthly Year-1 net operating revenue: **$314,397 per month**. Operating revenue scales with Ontario electricity-price escalation (assumed 2%/year); operating expenses ramp as the asset ages (see *O&M Schedule* in the Cash Flow section).

Capital Structure & Year-1 Tax Treatment

The project is structured as a direct asset purchase by **Your Company** with two stacked federal tax incentives applied in Year 1. In the modelled scenario, these may reduce the effective net capital outlay from $20M to approximately $11.26M, subject to eligibility, tax position, and labour-requirement compliance.

1. Clean Technology Investment Tax Credit (up to 30%, refundable)

The federal **Clean Technology ITC** provides a refundable tax credit on the capital cost of eligible clean technology property. Fixed-location electrical energy storage property can qualify, subject to detailed eligibility rules and the labour requirements published by CRA.

Labour requirements. The maximum 30% credit is available where the prevailing wage and apprenticeship requirements are met (or a valid election is made and complied with). If the labour requirements are not met, the credit rate is reduced to 20%. This report's base case assumes labour-requirement compliance; a 20% sensitivity is presented in the ROI section.

Refundability. Where eligible, the credit can be claimed as a refund to the extent it exceeds tax payable, subject to ordering rules and CRA administrative requirements.

Eligible cost basis. The ITC-eligible basis is intended to capture the qualifying property and directly allocable costs (battery modules, power conversion system, battery management, thermal management, dedicated transformers and interconnection, foundations and enclosure, and EPC costs directly allocable to the BESS). For a turnkey behind-the-meter installation, approximately 90% of installed capex is assumed to qualify in this report — actual eligibility is determined on a project-by-project basis under CRA rules.

Total turnkey installed capex	$20,000,000
ITC-eligible portion (≈ 90%, illustrative)	$18,000,000
Credit rate (with labour-requirement compliance)	30%
Credit rate (without labour-requirement compliance)	20%
Refundable ITC received (base case @ 30%)	**$5,400,000**

2. Accelerated Investment Incentive — 100% Year-1 Expensing

Under the Capital Cost Allowance (CCA) regime, the **Accelerated Investment Incentive (AII)** — reinstated by Bill C-15, which received Royal Assent on March 26, 2026 — permits up to **100%**

immediate first-year expensing for eligible Class 43.1 / 43.2 property acquired on or after January 1, 2025 and available for use before 2030, subject to the rules of the Income Tax Act.

For modelling purposes, the CCA basis is taken as the ITC-eligible capital cost reduced by the ITC received (UCC grind-down). The Year-1 deduction can shield taxable income from other sources — the value of the shield depends on having sufficient taxable income to absorb the deduction. The shield is calculated using the combined federal-Ontario corporate rate of 26.5%.

ITC-eligible capital cost	$18,000,000
Less: ITC reduction to UCC	($5,400,000)
CCA Year-1 basis (Class 43.1)	$12,600,000
Year-1 CCA deduction @ 100%	$12,600,000
Combined corporate tax rate (Federal 15% + Ontario 11.5%)	26.5%
Year-1 CCA tax shield (illustrative, sufficient taxable income)	**$3,339,000**

Note: The Year-1 tax shield assumes the taxpayer has sufficient taxable income to absorb the full Class 43.1/43.2 deduction in Year 1. If taxable income is insufficient, the shield is realised in later years; the ROI sensitivity table includes a CCA-deferred case.

Effective Net Capital Outlay

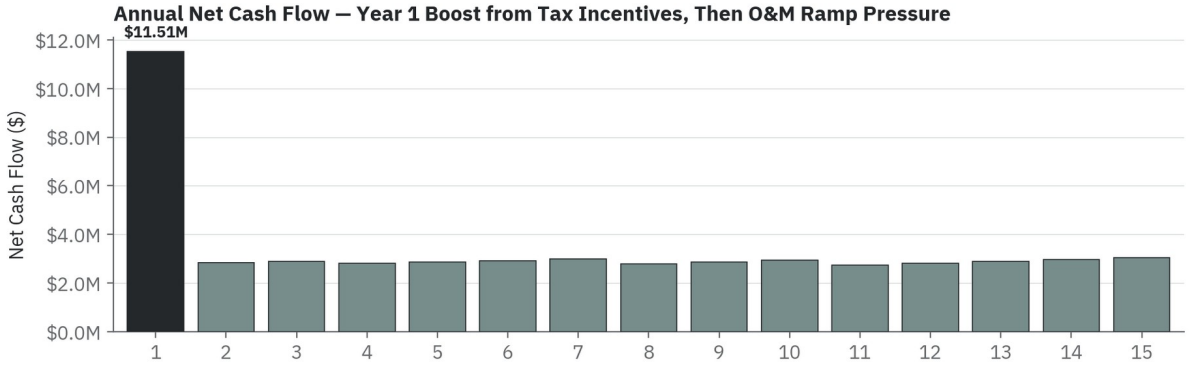
Gross capital outlay	**$20,000,000**
Less: Clean Tech ITC (refundable cash)	($5,400,000)
Less: Year-1 CCA tax shield	($3,339,000)
Effective net capital outlay (post-Year-1)	**$11,261,000**
Capital reduction in Year 1	**43.7%**

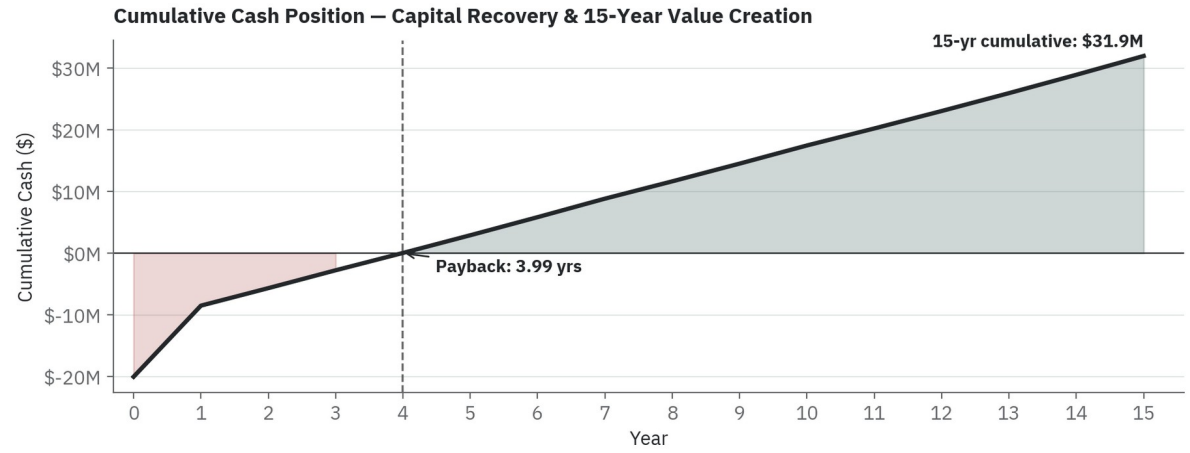
Note: This effective-net-capital-outlay is a planning metric, not a guaranteed outcome. It assumes timely receipt of the refundable ITC, eligibility of approximately 90% of capex, labour-requirement compliance for the 30% rate, and sufficient taxable income to absorb the Year-1 CCA deduction. Departures from any of these assumptions reduce the modelled benefit — see ROI sensitivity table.

15-Year ROI Analysis

The chart below traces modelled annual net cash flow and the cumulative cash position across a 15-year horizon. Year 1 includes the modelled refundable ITC and Year-1 CCA tax shield; Years 2–15 reflect modelled after-tax operating cash flow with revenue escalation of 2%/year and an O&M ramp consistent with industry guidance. **These are not forecasts of actual project results.**

Financial-model note: The base-case IRR, NPV and payback below depend on the modelled value-stream assumptions, full ITC at 30% with labour-requirement compliance, sufficient taxable income to absorb the Year-1 CCA deduction, and dispatch performance broadly in line with the assumptions in this report. The sensitivity table that follows shows how key metrics respond to alternative scenarios.





Key Metrics

Metric	Value
Simple payback period	**3.99 years**
Internal Rate of Return (15-year)	**21.0%**
Net Present Value (@ 8% discount rate)	**$12,634,130**
15-year cumulative net cash flow	**$31,922,145**

Metric	Value
Lifetime cash multiple on gross capex	2.60× of $20M

Sensitivity Analysis

How key metrics respond to alternative assumptions. Sensitivities are applied independently relative to the base case unless otherwise noted; the combined-downside row stacks the bill-side downsides simultaneously.

Scenario	IRR	Payback (yrs)	NPV @ 8%
Base case	**21.0%**	**3.99**	**$12,634,130**
ITC reduced to 20% (no labour-requirement compliance)	19.2%	4.45	$11,409,130
CCA shield deferred to Year 4 (limited Y1 taxable income)	19.2%	3.99	$11,996,728
ICI 4-of-5 peak capture (instead of 5-of-5)	19.0%	4.36	$10,377,283
Capacity revenue −25%	18.3%	4.49	$9,638,944
Add Regulation upside (~$87.6K/yr)	21.6%	3.89	$13,251,942
Combined downside (ITC 20% + CCA deferred + ICI 4/5 + Cap −25%)	**13.7%**	**5.62**	**$4,938,355**

Even under the combined-downside scenario, the model preserves a positive 15-year NPV at an 8% discount rate, with payback in roughly 5–6 years — reinforcing that the investment thesis is robust to multiple unfavourable assumption changes, though not invulnerable.

O&M Schedule (Realistic Ramp)

Battery operating expenses scale with asset age. The schedule below reflects industry-standard cost trajectories: warranty coverage in early years gives way to out-of-warranty servicing, mid-life cell augmentation, and end-of-life maintenance.

Period	Annual O&M	Driver
Years 1–3	$200,000	Warranty period
Years 4–7	$400,000	Standard out-of-warranty O&M
Years 8–10	$750,000	Mid-life cell augmentation
Years 11–15	$1,100,000	End-of-life maintenance & augmentation

Full 15-Year Cash-Flow Schedule

All figures in Canadian dollars. Year 0 represents capital outlay; Years 1–15 show net cash flow after operating expenses and corporate income tax at 26.5%.

Year	Gross Revenue	O&M	Net Cash Flow	Cumulative	Notes
0	—	—	**($20,000,000)**	($20,000,000)	Capex
1	$3,972,759	($200,000)	**$11,511,978**	($8,488,022)	ITC+CCA
2	$4,052,214	($200,000)	$2,831,377	($5,656,645)	After-tax
3	$4,133,258	($200,000)	$2,890,945	($2,765,700)	After-tax
4	$4,215,924	($400,000)	$2,804,704	$39,004	After-tax
5	$4,300,242	($400,000)	$2,866,678	$2,905,682	After-tax
6	$4,386,247	($400,000)	$2,929,892	$5,835,574	After-tax
7	$4,473,972	($400,000)	$2,994,369	$8,829,943	After-tax
8	$4,563,451	($750,000)	$2,802,887	$11,632,830	After-tax
9	$4,654,720	($750,000)	$2,869,969	$14,502,799	After-tax
10	$4,747,815	($750,000)	$2,938,394	$17,441,193	After-tax
11	$4,842,771	($1,100,000)	$2,750,937	$20,192,130	After-tax

Year	Gross Revenue	O&M	Net Cash Flow	Cumulative	Notes
12	$4,939,627	($1,100,000)	$2,822,125	$23,014,255	After-tax
13	$5,038,419	($1,100,000)	$2,894,738	$25,908,993	After-tax
14	$5,139,187	($1,100,000)	$2,968,803	$28,877,796	After-tax
15	$5,241,971	($1,100,000)	$3,044,349	$31,922,145	After-tax

Year 1 column note (after tax @ 26.5%): Year 1 net cash flow includes after-tax operating cash flow plus the $5.40M refundable Clean Tech ITC plus the $3.34M Year-1 CCA tax shield (assumes labour-requirement compliance and sufficient taxable income). Years 2–15 are after-tax operating cash flow at the same 26.5% combined rate.

Operational Dispatch — How the Asset Earns

A BESS does not earn all value streams at full output in the same hour. Instead, an **Energy Management System (EMS)** dispatches the asset to its highest-value use case in each hour, governed by forecasts of GA peak probability, capacity-auction commitments, OR clearing prices, and Ontario Zonal Price spreads. The scenarios below illustrate the typical operating modes.

Mode 1 — Summer Peak Forecast Day (Highest-Value Mode)

- **Conditions:** Heat-wave afternoon, system demand projected to set a top-5 GA peak.
- **Action:** BESS fully charged overnight; discharges 10 MW for 2 hours during forecast peak window (typically 14:00–18:00).
- **Primary value:** Global Adjustment peak-shaving — single peak captured may be worth $100K+ in GA reduction.

Mode 2 — Winter Evening Peak

- **Conditions:** Cold-snap evening, IESO capacity-auction activation possible.
- **Action:** BESS discharges to support capacity-auction obligation; offers remaining headroom into OR.
- **Primary value:** Capacity payment plus availability-based OR revenue.

Mode 3 — Shoulder Season Overnight

- **Conditions:** Low system demand, Ontario Zonal Price spread between off-peak and afternoon is significant.
- **Action:** Charge at $20–30/MWh overnight, discharge at $70–90/MWh next afternoon; offer remaining headroom to Operating Reserve.
- **Primary value:** Energy arbitrage with OR availability.

Mode 4 — Plant Brownout or Voltage Sag

- **Conditions:** Grid voltage dip or transient outage of <15 minutes.
- **Action:** BESS automatically rides through, supplying critical loads at sub-second transfer. EMS resynchronizes upon grid recovery.
- **Primary value:** Avoided lost production, equipment protection, behind-the-meter resilience.

Strategic Considerations

1. Closing Window on Maximum Tax Incentives

Two federal incentive programs operate on different phase-out schedules:

- **Accelerated Investment Incentive (AII / Class 43.1 immediate expensing):** 100% in 2025–2029, then 75% in 2030–2031, 55% in 2032–2033, eliminated thereafter.
- **Clean Technology ITC (30% refundable):** Full 30% through 2033, reduced to 15% in 2034, eliminated after 2034.

Acquisitions that achieve available-for-use status **before 2030** may capture both incentives at maximum value, subject to property eligibility, labour-requirement compliance, purchaser tax position, timing of claims, and final tax review. This creates a potential window of advantage for capital deployment in the next 36 months.

2. Capacity Market Pricing — Multi-Year Highs

The 2025 IESO Capacity Auction cleared at multi-year highs and reflects current procurement outcomes. These levels **may reflect a tighter Ontario supply-demand environment**, but remain subject to future market conditions, procurement outcomes, policy changes, and resource additions. Securing a capacity commitment at currently published clearing prices may benefit the project, but future commitment-period prices are not guaranteed.

3. Value-Stack Diversification

The base-case stack is structured so that no single program represents more than approximately 43% of modelled gross Year-1 value. The combination of energy, capacity, ancillary services, and BTM value is intended to provide resilience against changes in any individual market mechanism. Diversification is one of the reasons Ontario remains an attractive market for behind-the-meter storage.

4. Downside Risk: Revenue Reversion

Recent Ontario market conditions have been characterised by higher capacity-auction clearing prices, stronger ancillary-service signals under MRP, and wider intra-day spreads. In a more conservative scenario where one or more streams revert toward historical levels, **the modelled IRR and NPV decline materially** (see ROI sensitivity table). The combined-downside scenario presented in that table illustrates the impact of stacking these unfavourable assumptions; even there, the model preserves a positive 15-year NPV at an 8% discount rate, but the result is meaningfully less attractive than the base case.

5. Asset Life Beyond the 15-Year Modelling Horizon

The financial model uses a 15-year horizon — a common analysis window aligned with capacity-contract tenors and lender underwriting practice. **This is a modelling convention, not a statement about physical asset life.** Modern lithium-iron-phosphate (LFP) battery systems can remain useful beyond a 15-year horizon when supported by appropriate augmentation, warranty and O&M arrangements. Any uncounted years would represent additional value not reflected in the headline IRR or NPV figures, but realising them depends on system condition, augmentation cost, and continued market participation.

Conclusion

For **Your Company** a behind-the-meter 10 MW / 20 MWh BESS in Ontario may represent a financially compelling capital deployment, subject to site-specific diligence and the following modelled characteristics:

- Five base-case Ontario value streams modelled at **approximately $3.97M gross annually (Year 1)**, plus contracted regulation as potential upside.
- Federal incentives that, if fully realised, may reduce effective net capital outlay from $20M to approximately **$11.26M** in Year 1, subject to labour-requirement compliance and sufficient taxable income.
- Modelled simple payback in roughly **4.0 years**, with positive cumulative cash flow thereafter.
- Modelled **21.0% IRR** and **$12.63M NPV** at an 8% discount rate, subject to the assumptions and sensitivities documented in this report.
- A diversified value stack intended to be resilient to changes in any single program.

The current environment in Ontario — capacity-auction clearing prices at multi-year highs, the federal Clean Technology ITC available, the AII reinstated under Bill C-15, and stronger ancillary-service signals under MRP — may support attractive economics for behind-the-meter storage at well-suited Class A industrial hosts. **These conditions are favourable but not risk-free**: realising the modelled outcomes requires successful IESO registration and qualification, labour-requirement compliance, sufficient taxable income, sound dispatch and forecasting, and stable market and policy conditions over the project's operating life. The figures in this report are intended as a defensible illustrative case for a favourable Ontario host — not a guarantee of any specific result.

Appendix — Assumptions & Methodology

General Modelling Caveats

- **Illustrative model:** All numbers in this report are modelled illustrative outcomes for a favourable Class A Ontario industrial host. They are not forecasts of actual project results.
- **Site-specific diligence:** Real projects require host-specific load analysis, IESO registration and qualification, interconnection studies, permits, financing structuring, tax-position review, and engineering design.
- **Tax position:** Realising the modelled tax outcomes requires meeting Clean Tech ITC labour requirements (for the 30% rate), having sufficient taxable income to absorb the Year-1 CCA deduction, and timely filings.
- **Market participation:** Capacity, OR and (potentially) regulation revenue depend on successful IESO registration, performance audits, and ongoing market participation.
- **Future conditions:** Capacity-auction prices, ancillary-service prices, energy spreads, and policy/legislation may change. Sensitivity scenarios in the ROI section illustrate how key metrics respond to alternative assumptions.

System Configuration

- **Power capacity:** 10 MW
- **Energy capacity:** 20 MWh (2-hour duration)
- **Chemistry:** Lithium iron phosphate (LFP) — industry standard for stationary storage
- **Round-trip efficiency:** 85%
- **Operating life:** 15 years (modelled); useful operation can extend beyond 15 years when supported by appropriate augmentation, warranty and O&M arrangements
- **Installed capex:** $20M turnkey CAD — fully-burdened including EPC margin, soft costs, transformers, interconnection, and 2026 tariff exposure

Host Profile (Ideal Industrial Customer)

- **Peak demand:** 52 MW
- **Annual consumption:** 325 GWh
- **Load factor:** 71%
- **Class A status:** Yes (eligible for ICI)
- **Peak-hour concentration:** Summer 14:00–19:00 (aligns with historical ICI peak hours)

Revenue-Stream Assumptions

- **GA Peak Shaving (ICI):** $160K/MW-year × 10 MW, assuming high-capture managed peak prediction. Sensitivities reflect 4-of-5 and 3-of-5 outcomes.
- **IESO Capacity Auction:** $645.24/MW-business day (summer) + $725.31/MW-business day (winter) × 131 + 130 business days, with a 0.95 Adequacy De-rating Factor (ADF). Effective per-MW-year is approximately $169,876; 10 MW base-case revenue $1,698,759. Subject to IESO qualification, registration and performance.
- **Operating Reserve:** ~$10/MW-hour of reserve capability × 5 MW × 6,000 hours offered, reflecting post-MRP price ranges. Subject to OR-eligible registration.
- **Energy Arbitrage:** 20 MWh × ~300 cycles × ~$40/MWh average day-ahead spread × 85% RTE. Subject to actual price spreads, congestion, losses, and dispatch availability.
- **Behind-the-Meter:** $110K demand-charge mitigation + $60K resilience/power-quality value, assuming engineered support for selected critical loads (not full-facility 52 MW backup).
- **Contracted Regulation (upside, excluded from base case):** ~5 MW × ~1,752 hours × ~$10/MW-hour ≈ $87,600/year, contingent on a procurement contract.

Financial Assumptions

- **Combined corporate tax rate:** 26.5% (federal 15% + Ontario 11.5%)
- **Annual revenue escalation:** 2.0% (electricity-price inflation)
- **O&M trajectory:** $200K (yrs 1–3) → $400K (yrs 4–7) → $750K (yrs 8–10) → $1.1M (yrs 11–15)
- **Discount rate (for NPV):** 8.0%

Tax & Incentive Framework

- **Clean Technology ITC:** Refundable federal credit on the capital cost of eligible clean technology property, including fixed-location electrical energy storage. Up to 30% with labour-requirement compliance (prevailing wage and apprenticeship), reduced to 20% otherwise. ~90% of installed capex assumed eligible, illustrative — actual eligibility is determined under CRA rules (Income Tax Folio guidance and Clean Economy ITC pages).
- **Class 43.1 / 43.2 CCA:** Eligible electrical energy storage property is generally treated as clean energy property under Class 43.1 / 43.2 of Schedule II to the Income Tax Regulations.
- **Accelerated Investment Incentive (AII):** Reinstated under Bill C-15, which received Royal Assent on March 26, 2026. Up to 100% immediate first-year expensing for eligible Class 43.1 / 43.2 property acquired on or after January 1, 2025 and available for use before 2030, subject to the rules of the Income Tax Act. Realising the Year-1 deduction in full requires sufficient taxable income.

Key Risks & Sensitivities

- **GA pricing trajectory:** Global Adjustment values per MW may decline over time as more clean generation comes online; the model implicitly assumes that any decline is offset by other streams or absorbed via the sensitivity scenarios in the ROI section.
- **Peak-prediction accuracy:** GA savings depend on correctly identifying the top-5 IESO coincident-peak hours. Performance varies year-to-year; ICI 4-of-5 and 3-of-5 sensitivities are included in the ROI section.
- **Battery degradation:** Capacity fade requires augmentation. O&M ramp schedule is intended to fund this — augmentation costs are included within the year-8+ O&M allocation.
- **Regulatory change:** IESO market rules and federal tax measures may change. AII immediate-expensing applies to eligible Class 43.1 / 43.2 property available for use before 2030, after which prescribed phase-down rates apply.
- **Revenue reversion:** A combined-downside scenario (ITC at 20%, CCA shield deferred, ICI 4-of-5, capacity −25%) is shown in the ROI sensitivity table; it reduces IRR materially but the 15-year NPV at 8% remains positive in that scenario.

Sources & References

All sources accessed Q1 2026. URLs reflect canonical pages at time of publication; readers should confirm current versions for project-specific use.

- **A. IESO — Capacity Auction.** Independent Electricity System Operator, *Capacity Auction (program page) and 2025 Capacity Auction Final Results*. Supports: 2025 Capacity Auction held November 26–27, 2025 with results published in early December 2025; Summer 2026 and Winter 2026/27 commitment-period framework; clearing prices of $645.24/MW-business day (summer) and $725.31/MW-business day (winter); Storage Adequacy De-rating Factor (ADF). URL: ieso.ca/en/Sector-Participants/Market-Operations/Markets-and-Related-Programs/Capacity-Auction.
- **B. IESO — Global Adjustment & Industrial Conservation Initiative.** Independent Electricity System Operator, *Global Adjustment Class A Eligibility* and *Global Adjustment overview*. Supports: Class A Global Adjustment framework; Peak Demand Factor methodology; top-five system-coincident peak hours; May 1 – April 30 base period for ICI participants. URLs: ieso.ca/en/Sector-Participants/Settlements/Global-Adjustment-Class-A-Eligibility and ieso.ca/power-data/price-overview/global-adjustment.
- **C. IESO — Market Renewal Program.** Independent Electricity System Operator, *Market Renewal Program — Training Materials* and *Guiding Documents for the Transition to the Renewed Market*. Supports: May 1, 2025 renewed-market launch; Ontario Zonal Price; day-ahead and real-time market structure; Operating Reserve market design under MRP. URLs: ieso.ca/en/Sector-Participants/Market-Operations/Marketplace-Training/MRP-Training-Materials and ieso.ca/Sector-

Participants/Market-Operations/Legacy-Market/Guiding-Documents-for-the-Transition-to-the-Renewed-Market.

- **D. IESO — Operating Reserve.** Independent Electricity System Operator, *Operating Reserve market documentation (within Renewed Market design materials)*. Supports: 10-second, 10-minute and 30-minute Operating Reserve product definitions; OR eligibility, qualification and settlement concepts under the renewed market.
- **E. CRA — Clean Technology Investment Tax Credit.** Canada Revenue Agency, *Clean Technology Investment Tax Credit (ITC)*. Supports: Refundable Clean Technology ITC; eligible fixed-location electrical energy storage property; up-to-30% rate with 20% reduced rate where labour requirements are not met. URL: canada.ca/en/revenue-agency/services/tax/businesses/topics/corporations/business-tax-credits/clean-economy-itc/clean-technology-itc.html.
- **F. CRA — Labour Requirements for Clean Economy ITCs.** Canada Revenue Agency, *Labour requirements for the Clean Economy investment tax credits*. Supports: Prevailing-wage requirement; apprenticeship requirement; election mechanics; consequences of non-compliance (rate reduction from 30% to 20%, and other penalties). URL: canada.ca/en/revenue-agency/services/tax/businesses/topics/corporations/business-tax-credits/clean-economy-itc/labour-requirements-itc.html.
- **G. CRA / NRCan — Class 43.1 and 43.2 guidance.** Natural Resources Canada, *Tax Incentives for Clean Energy Technologies described in Class 43.1 and 43.2 — Technical Guide* (with related CRA Income Tax Folio guidance). Supports: Eligibility of fixed-location electrical energy storage property; Class 43.1 / 43.2 capital cost allowance treatment under Schedule II to the Income Tax Regulations. URL: natural-resources.canada.ca/funding-partnerships/tax-savings-industry.
- **H. Government of Canada — Accelerated Investment Incentive.** Department of Finance / Canada Revenue Agency, *Accelerated Investment Incentive guidance*, as restated by Budget 2025 measures and incorporated through Bill C-15. Supports: Up to 100% first-year expensing for eligible Class 43.1 / 43.2 property; acquired on or after January 1, 2025 and available for use before 2030; phase-down to 75% (2030–2031), 55% (2032–2033), eliminated thereafter.
- **I. Parliament of Canada — Bill C-15.** Parliament of Canada (LEGISinfo), *Bill C-15 — An Act to implement certain provisions of the budget tabled in Parliament on November 4, 2025 (Budget Implementation Act, 2025, No. 1)*. Supports: Royal Assent date of March 26, 2026; reinstatement of the Accelerated Investment Incentive and immediate-expensing framework for Class 43.1 / 43.2 property. URL: parl.ca/legisinfo/en/bill/45-1/c-15.

— End of Sample Report —