



COMMISSIONED TO RESPOND

Why Grid-Interactive Buildings Start With Commissioning

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Toronto Building Managers and Operators Association

Ontario market focus | Figures verified September 2026



Who Are We?

sTrack Energy is an energy and sustainability consultancy helping commercial real estate owners, developers and operators improve building performance—from early design and approvals through operations and long-term decarbonization.

+250
Energy Efficiency
Projects



Employees: 5 Full-time | 3 Part-time
Offices: Toronto | Calgary

sTrack's Core Sustainability Services



INTRODUCTION

About Your Speaker



David Pour
President & CEO

BEMP, CBCP, Ms.C. LEED AP BD+C

HIGHLIGHT

- +12 Years of Experience
- Certified Building Commissioning Professional (AEE CBCP)
- Certified Building Energy Modeling Professional (ASHRAE BEMP)
- Over 500 Energy Efficiency Completed Projects

PROFILE

David Pour is President and CEO of sTrack Energy, a Toronto and Calgary based consulting firm delivering energy and sustainability solutions for new and existing buildings across North America and beyond. With more than a decade of experience and over 500 completed projects, David has built his practice around designing and operating buildings through an energy efficiency lens. In existing buildings he has delivered energy audits, retro-commissioning, HVAC functional testing, control and schedule optimization, and operator training. He also leads energy efficiency and design stage consulting for new construction, which informs how he diagnoses existing buildings that have drifted from their intended operation. David is a Certified Building Commissioning Professional (CBCP), an ASHRAE Certified Building Energy Modeling Professional (BEMP) and a LEED Accredited Professional, and is a PhD candidate at Concordia University's Centre for Zero Energy Building Studies (CZEBS).

EXPERIENCE

- **sTrack Energy, Toronto, CA** 2024 – Present
President & CEO
- **JLL Canada, Toronto, CA** 2022 - 2024
Senior Building Performance Manager
- **Purpose Building, Toronto, CA** 2020- 2022
Senior Energy Modeller
- **Smith & Anderson - Footprint, Toronto, CA** 2018- 2020
Sustainability Consultant
- **Internat Energy Solutions Canada, Toronto, CA** 2016- 2018
Sustainability Consultant
- **Montreal Zero Inc, Montreal, CA** 2015
Part-time Performance Analyst
- **Energy House Co, Tehran, Iran** 2012-2014
Intern Energy Modeller

From commissioning to grid revenue

Four stages. The work at the left is what makes the money at the right possible.



STAGE 1

Existing Building Commissioning



Investigation: interval data, BAS trends, functional testing.
Implementation: schedules rebuilt, overrides cleared, sensors calibrated, sequences rewritten.
Persistence: operator training, monitoring plan, twelve-month verification.



STAGE 2

The Capability It Creates



- Visibility
- Control authority
- Documented schedules
- Verified sequences
- Measurable baseline



STAGE 3

Grid Interaction



Load that can be seen, commanded and predicted.
 HVAC becomes a dispatchable resource rather than a fixed cost.



STAGE 4

Demand Response Revenue



- Save on Energy Peak Performance, at least 75% of the reduction from HVAC
- Industrial Conservation Initiative peak avoidance
- IESO Capacity Auction

Funded throughout. Save on Energy pays the investigation and pays on confirmed savings. Enbridge shares the cost of the controls upgrades.

The question has changed from how much to when

65%



Forecast growth in Ontario electricity demand to 2050

IESO Annual Planning Outlook, March 2026

+ \$400,000



Per MW per year

IESO capacity auction, December 2025

3X The Grid



By 2050

IESO peak tracker, September 2026

Efficiency answers how much energy a building uses. Flexibility answers when it uses it. Ontario is now paying for the second answer.

For a property manager, that is the difference between energy as a cost line and energy as a line that can earn.

Sources: IESO Annual Planning Outlook 2026; IESO 2025 Capacity Auction results; IESO ICI Peak Tracker.

A QUESTION BEFORE WE GO FURTHER

Could your building shed fifteen percent of its electrical load, within thirty minutes, on command, this afternoon?

And could you prove afterward, from your own trend data, that you did?

Most buildings cannot do the first. Almost none can do the second. That gap is a commissioning gap, not an equipment gap.

Ontario wrote the mechanical room into the electricity market

75%

of the load reduction must come from HVAC.
A requirement, not a suggestion.

Who

Class B. ICI participants not eligible

Size

500 kW, aggregation allowed

Season

June to September, 3 to 7 pm

Notice

Day ahead, then noon same day

\$54,845 per MW-season plus \$20 per kW one time. That is the 2026 rate, set off the capacity auction.

And no penalty for sitting out an event. The risk that normally stops a manager signing is not in this program.

DEFINITIONS

What grid-interactive actually means

Four rungs. Almost none of the climb is capital equipment. Where it is, it is points and sensors.

1

Efficient

Lower load, and the plant headroom a shed depends on.

2

Controllable

A command actually reaches the equipment.

3

Dispatchable

Load moves on demand, inside agreed comfort limits.

4

Verifiable

The building can prove what it did, from its own data.

Ontario pays at rungs three and four. Commissioning is how a building climbs.

Why most buildings cannot respond

Six ordinary commissioning findings, reframed as the reasons a building is not dispatchable.



Schedules never left occupied

Equipment that runs all night has nothing left to give at 4 pm.



Standing overrides

One override from an old complaint, and the global command never lands.



Drifted sensors

A reading three degrees out makes precooling a guess.



Stuck economizers

Stuck open on a hot day, they pull outdoor air in during the hour that costs most.



No load visibility

The meter proves what you did. Trends are how you know what to commit to.



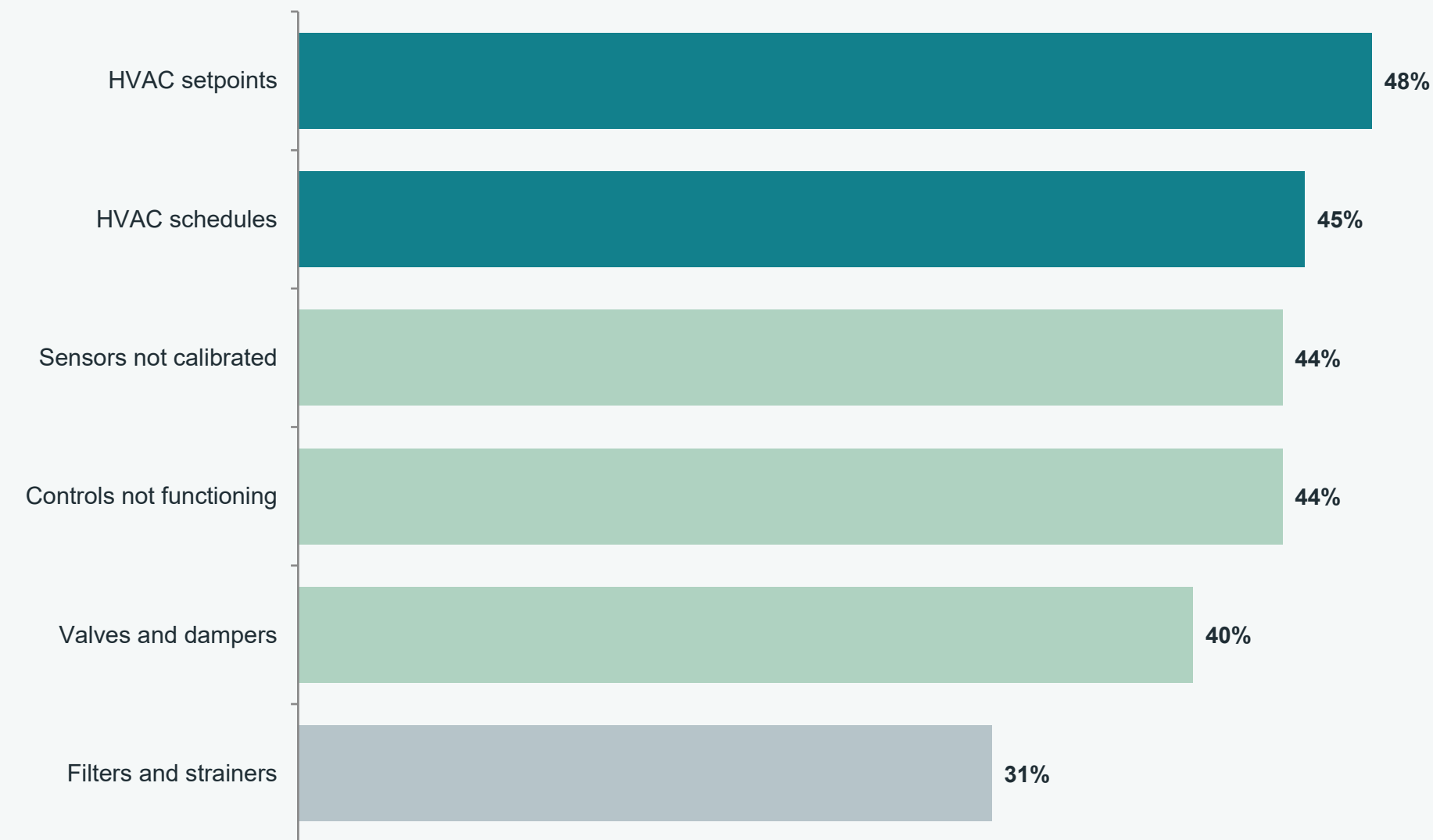
Undocumented sequences

Nobody can predict the response, so nobody commands it.

Every one is found, fixed and documented inside a normal commissioning scope.

Deficiencies identified in 420 commercial buildings over 50,000 sq ft

Deficiencies identified in 420 Seattle commercial buildings over 50,000 sq ft



And once you watch continuously

40%

of air handling units have an active fault on any given day

30%

of air terminal units, on the same basis

245

faults reported per building per month, on average

These are not broken buildings. They are ordinary buildings, and the faults are invisible until somebody looks.

Sources: Walter and Mathew, City-level impacts of building tune-ups, Energy Policy 168 (2022), 420 buildings. Crowe et al., Empirical analysis of the prevalence of HVAC faults in commercial buildings, Science and Technology for the Built Environment (2023), 317 buildings and 3,660 air handling units.

What existing building commissioning actually is

Finding out what the building really does, correcting it, and making the correction hold.

1

Planning

2 to 4 weeks

- Screen against utility and interval data
- Set objectives and comfort limits
- Confirm eligibility and apply

2

Investigation

6 to 12 weeks

- Walkthrough and operator interviews
- Trend logging and diagnostics
- Functional testing
- Measure list with costs

3

Implementation

1 to 3 months

- Schedule rebuilds, override clean-up
- Calibration, damper and valve repair
- Sequence rewrites and resets
- Retest what changed

4

Persistence

Ongoing

- Operator training
- Updated sequences and O&M records
- Monitoring plan and alarms
- Verification at twelve months

Almost all of it is control, schedule and sequence correction. Very little of it is equipment replacement.

What an investigation looks at

What gets pulled

- Twelve to twenty-four months of interval data
- BAS trends at five to fifteen minute resolution
- Alarm list and every standing override
- Sequences of operation and as-builts
- Actual occupancy, not the leased hours

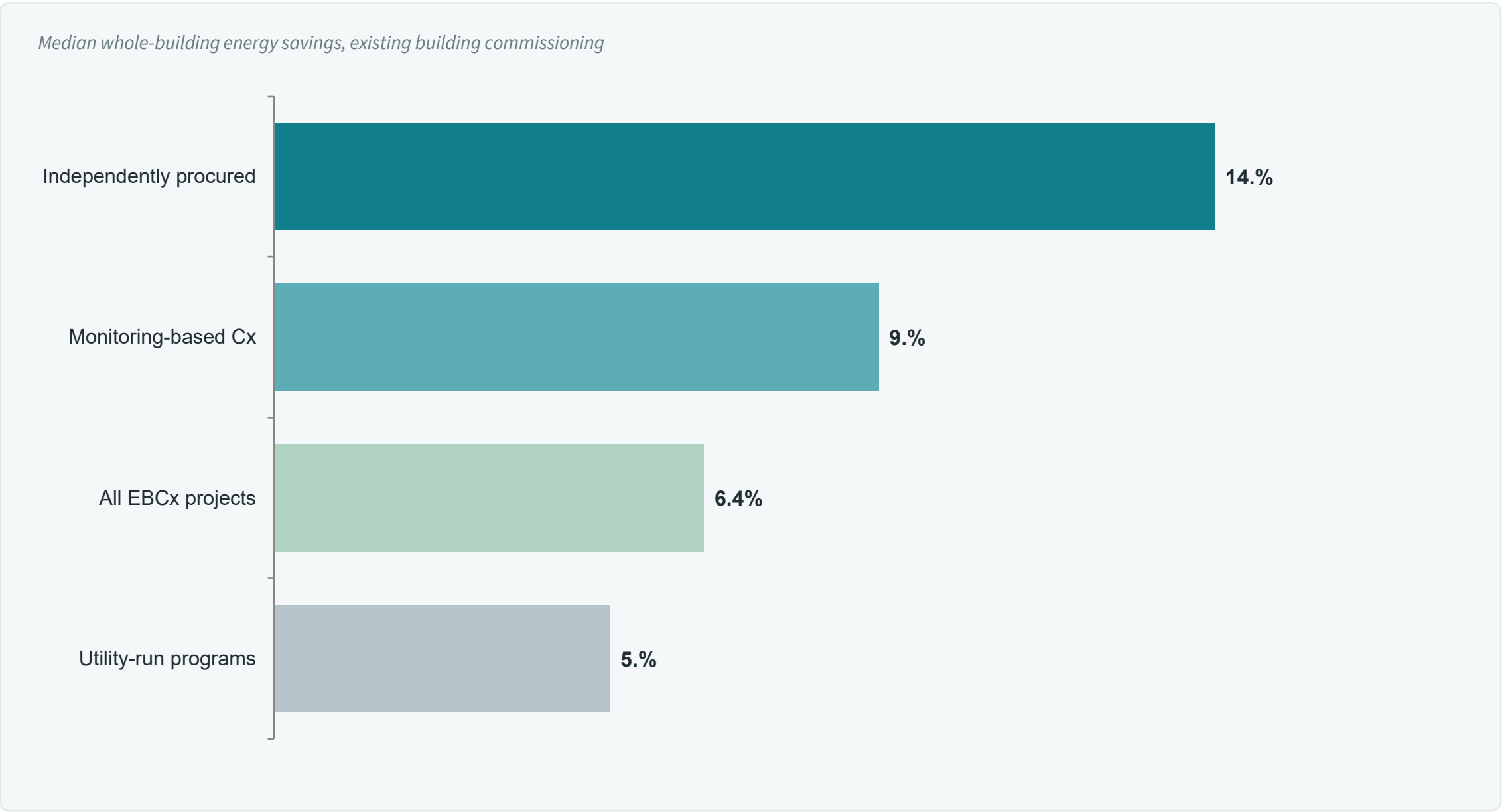
What gets tested

- Economizer across the high limit, both directions
- Damper stroke, minimum position, leakage
- Valve travel and leak-by at closed position
- Sensor calibration against a reference
- Occupied, setback and unoccupied transitions
- Staging, lockouts, simultaneous heating and cooling

One more test, and almost nobody runs it: issue a global setpoint change and watch whether the building moves.

That single test separates a commissioned building from a dispatchable one. It takes an afternoon.

What commissioning returns, and who gets the most



1.7 yr
Median simple payback

\$0.26
Median cost per square foot

1,299
Buildings in the dataset

A building that hires its own commissioning provider gets close to three times what a utility-run program delivers.

Source: Crowe, Mills, Poeling, Curtin, Bjørnskov, Fischer and Granderson, Building commissioning costs and savings across three decades and 1,500 North American buildings, Energy and Buildings 227 (2020). Existing building commissioning: 1,037 projects across 1,299 buildings.

THE CATCH

Savings do not stay saved on their own

Share of measures still in place at re-inspection, by measure type



58%

of commissioning measures were still in place when re-checked

- Persistence fell from 76% in the earliest program year to 49% four years later
- Optimum start and thermostat settings had reverted completely
- Schedule and sequencing measures held up best

This is why the persistence phase; the training and the monitoring plan are not padding. They are what stops the building drifting back.

Source: Seventhwave, Persistence of Savings from Retro-Commissioning Measures, prepared for ComEd (2018). 28 buildings, 167 measure instances evaluated.

How one funded study turns into a grid-ready building

1

Start with a funded study

Save on Energy pays up to 75% of the commissioning provider's fee.

THEY PAY FOR THE LOOK

2

Find what is wrong

Schedules, setpoints, sensors, economizers. And the equipment not on the BAS at all.

YOU GET THE LIST

3

Fix it on two budgets

Save on Energy pays on kWh saved. Enbridge pays on cubic metres. Different fuels.

THEY PAY FOR THE FIX

4

Get a better BAS

More equipment connected, more points, more control. Two funders, two mechanisms.

THE REAL PRIZE

5

Now the grid pays

You can see, command and prove. The programs are finally open to you.

AND THEY PAY AGAIN

The building gets more efficient, the automation system gets better, and most of it is paid for by somebody else. Grid readiness is what falls out at the end.

Two utilities, two fuels, one scope of work

ELECTRICITY

Save on Energy



Study

Investigation incentive: up to \$0.06 per sq ft, max \$50,000, and no more than 75% of the commissioning fee

Implementation

\$0.03 per kWh of confirmed savings, capped at the lesser of \$50,000 or 30% of annual consumption

Persistence

\$0.03 per kWh again, after a twelve-month verification period

NATURAL GAS

Enbridge Gas



Study

Commercial custom audit: up to 50% of assessment cost, \$6,000 to \$20,000 depending on consumption

Implementation

Custom retrofit at \$0.40 per m³ saved, up to 75% of upgrade cost, max \$100,000 commercial

Note

Building automation and control upgrades are a named eligible measure. Enhanced controls rates have run higher: confirm what is open

The Save on Energy exclusion covers measures funded by other Ontario or IESO electricity programs. A gas incentive is neither. In practice each utility pays against its own fuel.

Two traps: fuel switching is not an eligible commissioning measure and triggers a baseline adjustment, and environmental attributes are split in proportion to each funder's share. Get both programs to confirm your project in writing before you count the money.

Sources: Save on Energy EBCx Program Requirements v2.1, November 2025. Enbridge Gas commercial custom retrofit and commercial custom audit pages, 2026 program year.

Commissioned to respond means five specific capabilities

CAPABILITY	WHAT COMMISSIONING DELIVERS	WHY THE GRID NEEDS IT
 Visibility	Interval data and working trends	You can see load now and reconstruct it later
 Control authority	Overrides cleared, commands that land	One instruction moves the whole building
 Documented schedules	Occupied, setback, unoccupied defined	You know what is actually available to shed
 Verified sequences	Tested rather than assumed	You can predict the response, and the recovery
 Measurable baseline	A defensible basis for comparison	You can prove the reduction to an administrator

This is the standard commissioning scope. The deliverables do not change. What changes is what they are for.

How a demand response event actually runs

Day ahead	Prepare	Confirm tomorrow’s occupancy · Notify tenants · Verify trends are logging
2 to 4 hrs before	Precool	Drive temperatures to the low end of the band · Charge the thermal mass
Event start	Shed in stages	Global setpoint adjustment of 1 to 2 °C · Reduce fan and pump speed · Limit staging
During	Hold and watch	Trim ventilation · Drop non-critical plug and lighting load · Watch the complaint zones
After	Recover slowly	Stagger restarts · Return setpoints in steps · Confirm the avoided load in your data

Precooling is the highest-value move here and the one most often skipped. The building is a thermal battery you already own.

Rebound can erase the saving, or create a worse one

What goes wrong

- The event ends at 6 pm and every setpoint returns at once
- Every compressor, fan and pump starts together
- The building draws more than it would have without the event
- If the system peak lands in that hour, you are worse off than doing nothing

What to do instead

- Stage the recovery over thirty to sixty minutes
- Randomise or sequence restarts across zones
- Return setpoints in half-degree steps
- Write the recovery sequence down and test it before the season

Recovery is a sequencing problem, not an equipment problem. Which is to say it is a commissioning problem.

Two of the five peak hours that set the current adjustment period were hour ending 18 and hour ending 19. A sloppy 6 pm recovery can put maximum draw inside the hour that matters most.

Comfort is the constraint, and it is manageable



Set the band before the season

Agree how far setpoints may drift and for how long. One to two degrees for two to three hours is the usual range. Put it in writing.



Tell tenants first, not after

A short notice that the building is in a provincial peak reduction program lands very differently than an unexplained warm afternoon.



Protect the exceptions

Server rooms, labs, food service and any space with a written temperature obligation come out before the strategy starts.

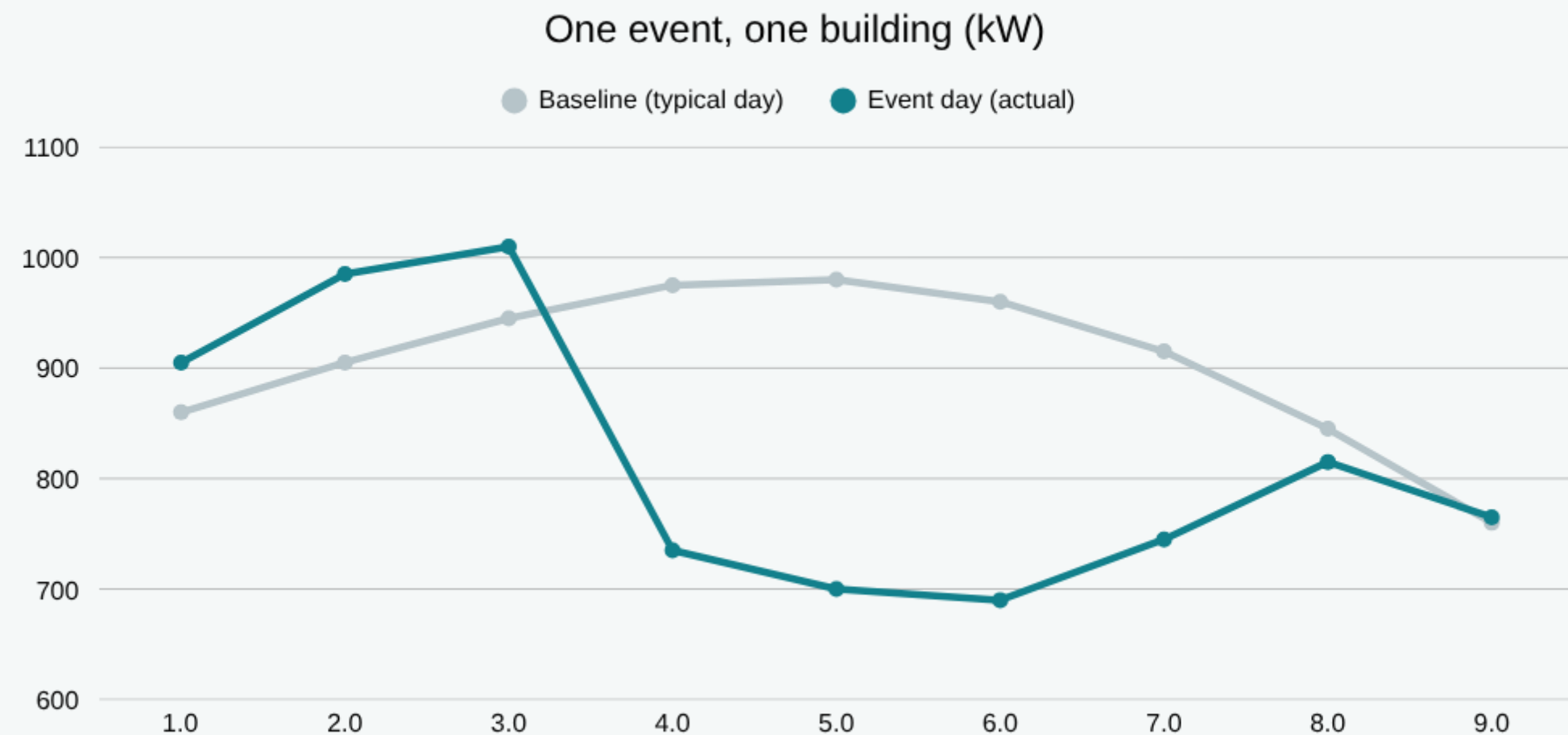


Leave operators in control

Every event needs a documented abort condition and a named person who can call it. Staff who can stop an event will run one.

Complaints during well-run events are rare. Complaints during badly run recoveries are not.

You cannot be paid for what you cannot prove



Precool from 1 pm. Shed from 3 pm. Staged recovery from 6 pm. The gap between the lines is the only thing a program pays for.

What has to be in place first

- Whole-building interval data, twelve months minimum
- A baseline method agreed before the season
- Weather normalisation. A hot event day is not typical
- Trends already logging when the event started
- A written record of what was commanded, and when

Interval data is free. Your distribution company already holds it, and one email gets you two summers of it.

Illustrative load shape for a mid-size office building, shown to explain the method rather than to represent a specific project result.

A Toronto multi-tenant office building

76,600

square feet

Multi-tenant office. Local and manual controls. No central automation system. No trend data of any kind.

Anonymised

What we found

- Inconsistent schedules, some zones running continuously
- No standard definition of occupied or unoccupied
- Economizer high limits never verified
- No trend data available for any verification

What we changed

- Standardised schedules: occupied, setback, unoccupied
- Supply air reset and boiler lockout on outdoor air
- Economizer high limit verification and ventilation monitoring
- Eleven-module operator training and quarterly verification

None of that was done for demand response. All of it is what a demand response program requires.

A system nobody could predict became one with a documented baseline, defined states, verified sequences and trained staff.

Three moves in the next ninety days



Pull your interval data

Ask your distribution company for hourly consumption for the last two summers. It costs nothing.



Check your load in the peak hours

Look up last year's five peak hours and see what you were drawing. That number is what is at stake.



Scope the investigation now

The study is funded, the findings drive the BAS budget, and the application deadline is in May.

The clock

- Peak Performance applications are due May 14 for a June 1 season, so the commissioning has to happen this winter.
- The Class A election window is June 1 to 15.
- Enbridge's current programs are approved only to December 31, 2026. Nothing beyond that is confirmed.

The buildings that earn from the grid will not be the ones with the newest equipment. They will be the ones whose equipment does what the drawings say it does.

Questions

Happy to walk any building in the room through a readiness check.



David Pour
President & CEO

BEMP, CBCP, Ms.C. LEED AP BD+C

SOURCES

- IESO: ICI backgrounder, Global Adjustment and Peak Demand Factor, Annual Planning Outlook 2026, 2025 Capacity Auction results
- Save on Energy: Peak Performance Program requirements (2026); Existing Building Commissioning Program requirements v2.1 (Nov 2025)
- Enbridge Gas: commercial custom retrofit and commercial custom audit, 2026 program year
- Crowe et al., Energy and Buildings 227 (2020); Walter and Mathew, Energy Policy 168 (2022); Crowe et al., STBE (2023); Seventhwave for ComEd (2018)

Program terms, thresholds and incentive values are current as of September 2026. Ontario program terms change on short notice: confirm before acting.