



May 14th, 2026

Top Energy Performing Universities and Colleges

2026 Annual Report, featuring “Unlocking HVAC Savings: A BAS Recommissioning Guide for Colleges and Universities”

Program Sponsor:



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Technical Direction:



Program of:



Instructions and housekeeping

- **Use the Q&A option** for **questions and comments** related to the content. Questions may be answered during the webinar, and **will be included** in the Q&A document after the event
- Reserve the chat **only** for technology questions/related content

Land acknowledgment

We acknowledge with respect the ancestral and unceded territory of the Inuit, Métis, and First Nations people that share these lands with us.

While we meet today on a virtual platform, I speak from the traditional homes of the Huron-Wendat, Haudenosaunee, Anishinaabe, and the Mississaugas of the Credit River. We hope this work contributes to our common responsibility as stewards of the environment.



Climate Challenge Network

About Us

Climate Challenge Network is a non-profit organization that develops and manages large-scale, collaborative, data-driven sectoral programs, currently for municipalities, hospitals, school boards, and post-secondary institutions.

The programs focus on accelerating reductions in building-related greenhouse gas emissions, helping members future-proof their organizations and build resilience in their communities. Climate Challenge Network works with program members, governments, utility companies and industry experts on applied research and demonstration initiatives to develop new knowledge and best practices for energy and water efficiency in commercial buildings.



About Post-Secondary Climate Challenge

The Post-Secondary Climate Challenge is a member and data-driven program that brings together post-secondary schools to collaborate and achieve deep reductions in energy use, utility costs, and greenhouse gas emissions.

Members of Post-Secondary Climate Challenge will:

- ✓ Shares strategies to lower energy use and emissions and reduce utility costs
- ✓ Tracks sector energy use, savings achieved and cost savings potential
- ✓ Conducts applied research cohort projects to produce expert, unbiased application guides and best practices
- ✓ Networks through workshops and webinars
- ✓ Recognizes high-performance results

And much more! Visit postsecondarycc.org to learn more.



Agenda

The WHY

- Climate action in a changing world
- Working through political, financial and technological uncertainty

Energy trends

- Comparing 2024 vs 2023: Are we making progress?

2026 leaderboard

- Top-10 energy performing colleges and universities (2024 data)
- Top-5 energy savers
- Ontario's achievable savings potential

The WHAT: Top energy savings measures

- Building automation upgrades
- HVAC testing, refurbishment and rebalancing
- EBCx (existing building commissioning)
- Energy retrofits and controls
- Decarbonization readiness

The HOW: Working together

- Universities and Colleges (OAPPA)
- Industry (service contractors and suppliers)
- Governments and utility companies

Unlocking HVAC Savings: A BAS Recommissioning Guide for Colleges and Universities

- Project overview and approach
- Implementation results
- Panel discussion, audience Q&A

Colleges and universities reporting

Algonquin College

Boreal College

Brock University

Cambrian College

Canadore College

Carleton University**

Centennial College

Conestoga College

Confederation College

Durham College & University of Ontario
Institute of Technology

Fanshawe College

George Brown College

Georgian College

Guelph University

Hearst University+

Humber College

La Cite Collegiale

Lakehead University

Lambton College

Laurentian University

Loyalist College***

McMaster University

Mohawk College****

Niagara College

Nipissing University

Northern College

Ontario College of Art and Design University

Queen's University

Ryerson University

Sault College*

Seneca Polytechnic

Sheridan College***

Sir Sandford Fleming College of Applied Arts
and Technology****

St. Clair College

St. Lawrence College

Trent University

University of Guelph

University of Ottawa**

University of Ontario Institute of Technology

University of Toronto

University of Toronto at Mississauga

University of Toronto at Scarborough

University of Waterloo

University of Western Ontario

University of Windsor

Victoria University in the University of Toronto

Wilfrid Laurier University***

York University***

*2023 data issues; **2022 data issues; ***2023 data not available in BPS database;
****2024 data not available in BPS database



HUMBER

The WHY

Urgency, opportunity, and responsibility

1. Climate change is the defining issue of our times, challenging all organizations to take urgent action. *The threat of going beyond 1.5°C has catastrophic ramifications.*
2. Despite government policy and best intentions, emissions due to buildings, including colleges and universities, continue to climb. *With the present trajectory, we will miss 2030 targets by a wide margin.*
3. Think globally but act locally. *Every organization has a role to play* in closing the gap.



Navigating the energy/carbon transition

- **Political uncertainty** – we're responsible, stay the course
- **Severe financial limitations** – opportunity to contribute operational utility cost savings and incentives
- **Stretched resources** – use utility programs and your service contractors
- **Aging infrastructure** – and deferred maintenance, low carbon end of life decision-making
- **Limited energy metering** – address high impact priorities to support operational improvements
- **Relentless worsening of climate change** – the ultimate driver of policy, economics and action



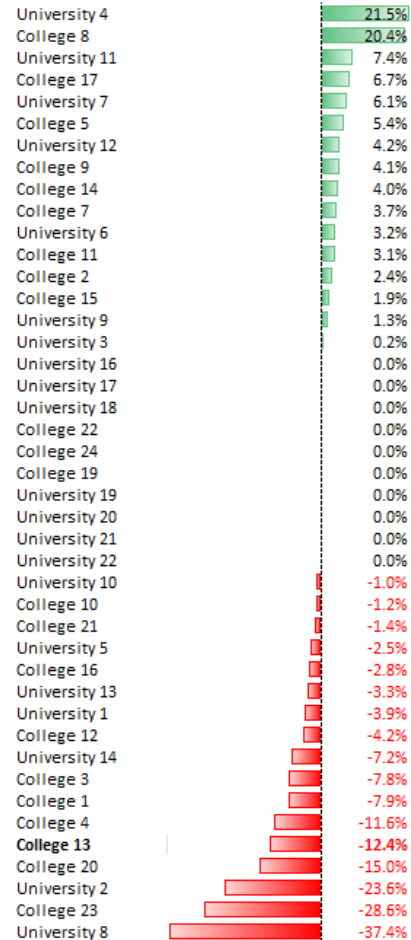
**Energy trends:
are we making
progress?**

Energy and emissions 2024 vs 2023

Total Energy

Net savings **-3.1%**
-105,575,849 ekWh
-21453 tonnes CO2e

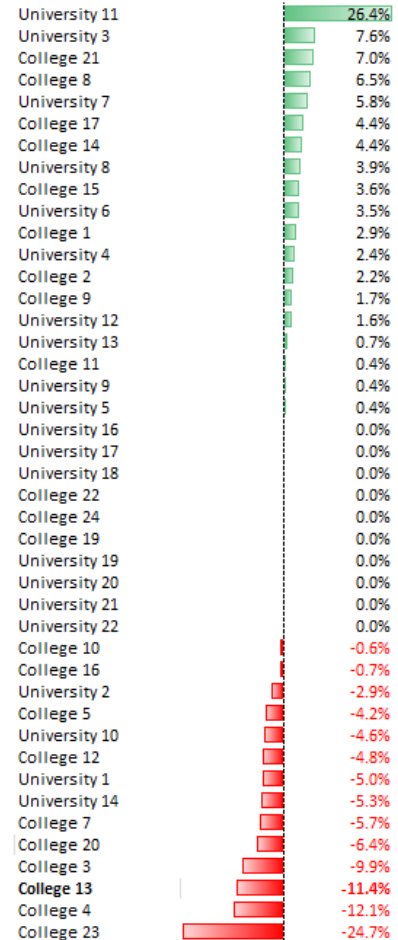
College / university Estimated Total Energy Savings / Increases in 2024 vs 2023



Electricity

Net savings **1.1%**
14,676,504 kWh
866 tonnes CO2e

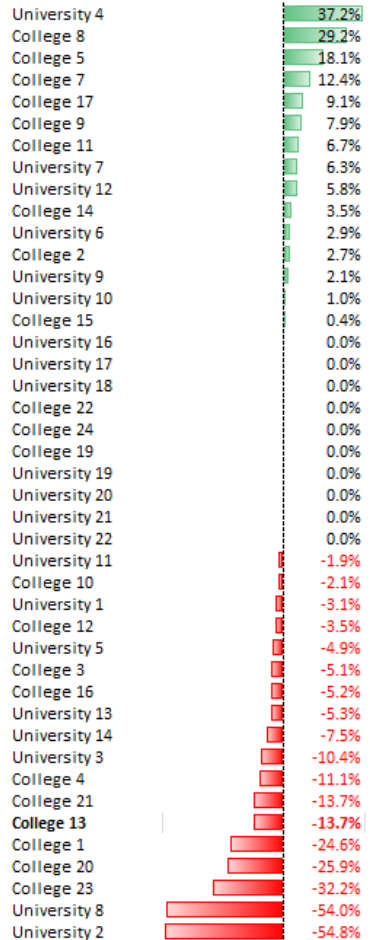
College / university Estimated Electricity Savings / Increases in 2024 vs 2023



Gas

Net savings **-5.6%**
-11,618,585 m3
-22319 tonnes CO2e

College / university Estimated Gas Savings / Increases in 2024 vs 2023



The concerning answer is NO:

- 17 of 44 with net energy increases
- Modest net electricity savings
- Significant net gas increase
- Net ~ \$2 million net utility cost increase
- Overall, 21,500 tonnes of emissions are going in the wrong direction
- KNOW WHERE YOU STAND!

Overall trends: every year tells a story


Actual energy savings	2024 vs 2023	2023 vs 2022	2021 vs 2020	2020 vs 2019	2019 vs 2018
Overall electricity savings (kWh)	14,676,504	-9,076,401	-2,583,165	53,138,305	2,131,897
Overall electricity savings %	1.1%	-0.8%	-1.0%	15.9%	0.6%
Number with net electricity savings	19 (out of 44 ^{**})	8 (out of 34 [*])	7 (out of 16 colleges)	17 (out of 20 colleges)	11 (out of 20 colleges)
Overall natural gas savings (m3)	- 11,618,585	-10,767,627	291,929	975,570	3,904,455
Overall natural gas savings %	-5.6%	-6.0%	2.1%	3.5%	12.0%
Number with net natural gas savings	15 (out of 44 ^{**})	8 (out of 34 [*])	8 (out of 16 colleges)	10 (out of 20 colleges)	15 (out of 20 colleges)
GHG emissions reductions (tonnes CO2e)	-21,453	-20,892	913	3,462	7,541
Number with net GHG emissions savings	16 (out of 44 ^{**})	7 (out of 34 [*])	7 (out of 16 colleges)	17 (out of 20 colleges)	15 (out of 20 colleges)

*Two institutions with data issues in 2022

** One Institution with data issues in 2023

Top 5 energy savers - 2024 vs 2023

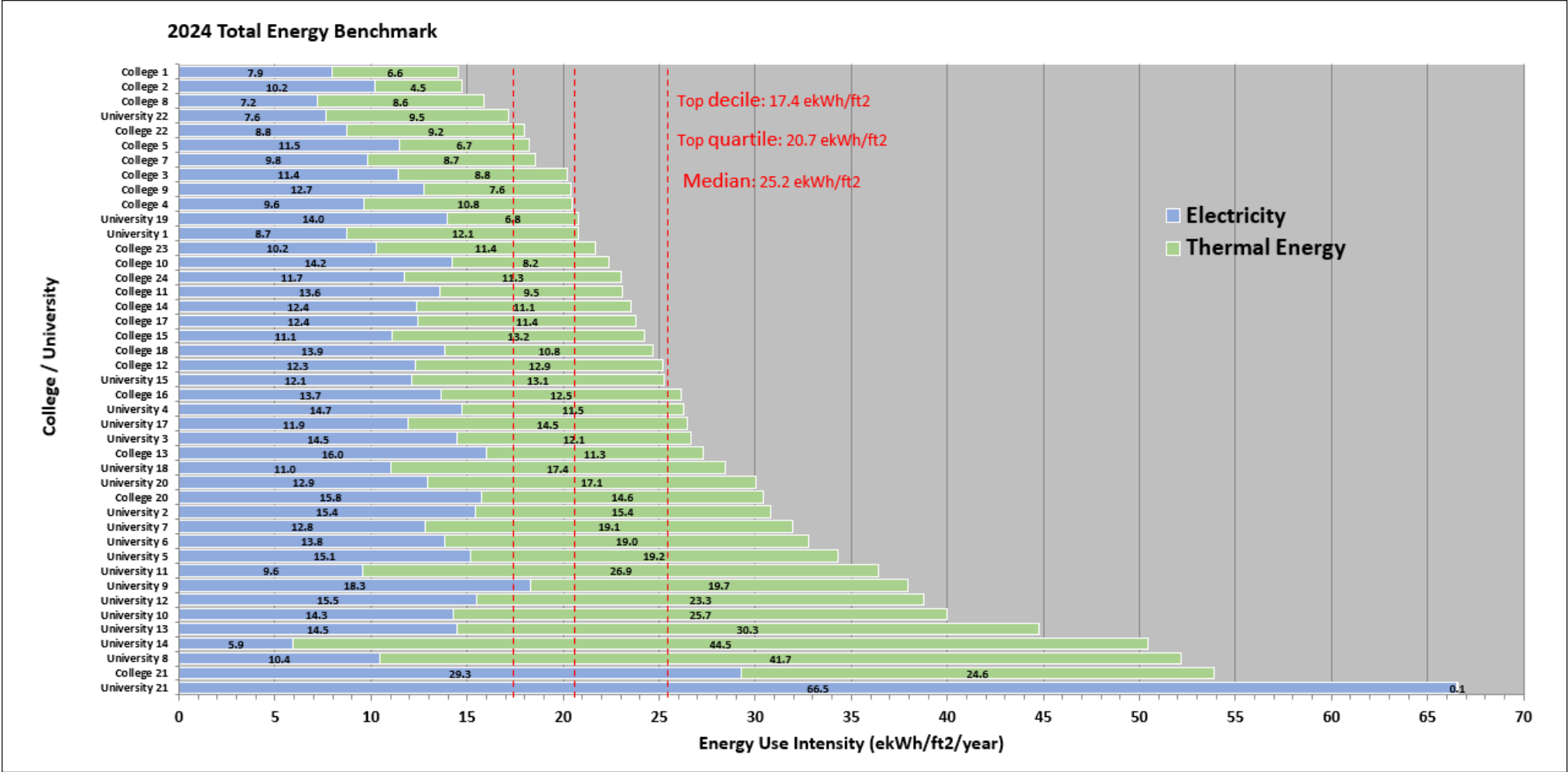
2026 Top energy savers	College / University
1	Ontario College of Art and Design University (OCAD)
2	Northern College
3	Carleton University
4	Queen's University
5	Fanshawe College



**2026 energy
performer leader
board**

POST-SECONDARY CLIMATE CHALLENGE

Knowing where you stand (EUIs)



Energy targets and savings potential

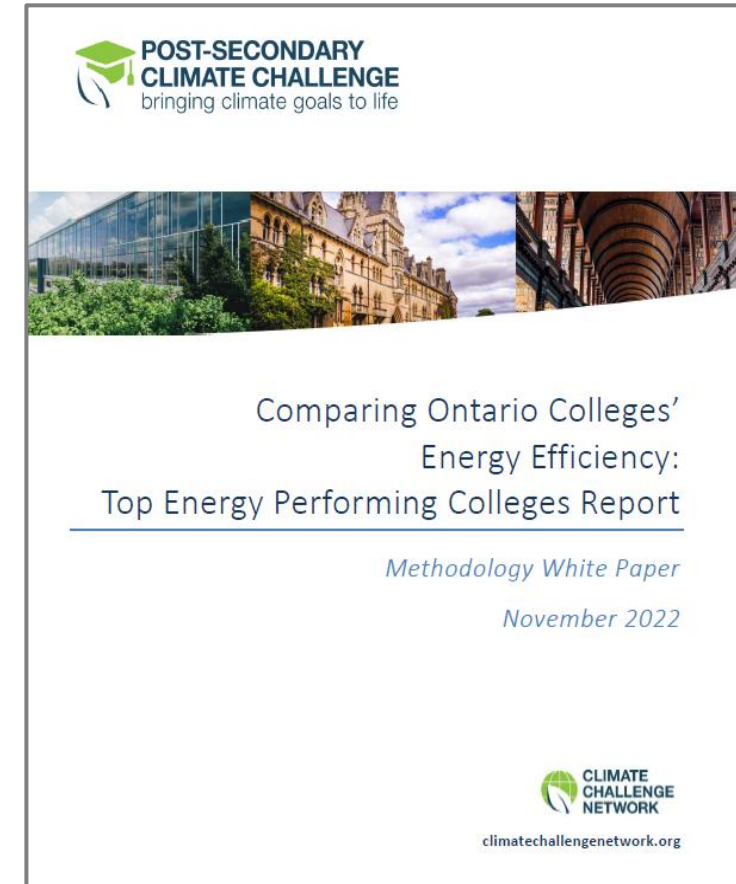
Top energy performing colleges and universities are determined by comparing actual energy use to **top-quartile energy targets** for post-secondary campuses and buildings.

Standard (weather-normalized) targets for different space types provide a consistent basis for evaluation.

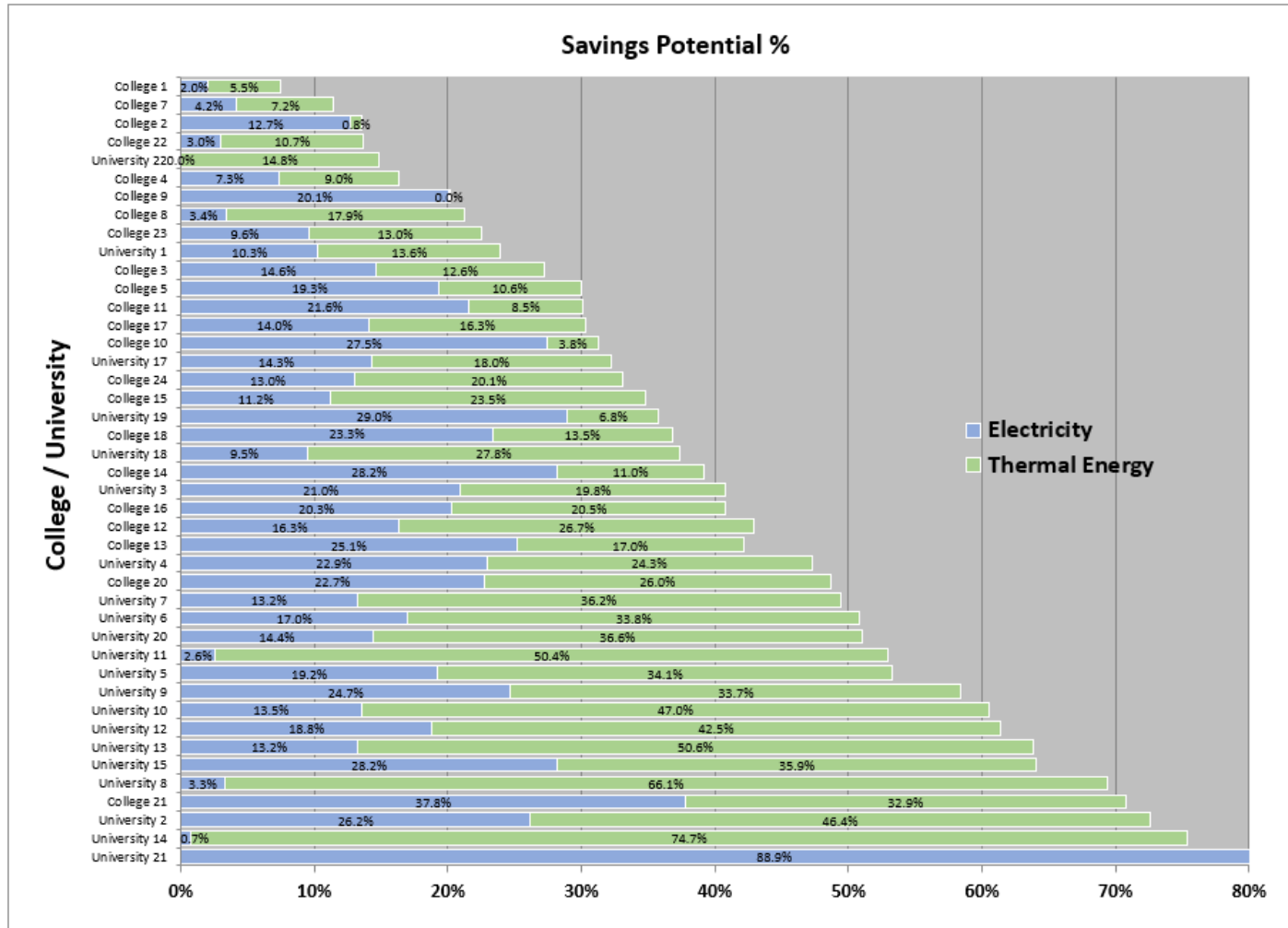
Detailed methodology published in white paper.

Visit:

<https://postsecondarycc.org/> to learn more



Applying energy targets: top energy performers










Number reported:
44 colleges and universities

Total building area:
128M ft²


- Target savings:**
- Electricity 37% (619M kWh)
 - Thermal: 64% (151M m³ of NG equivalent)
 - Utility cost: \$132M*
 - GHG emissions: 50% (326,000 tonnes CO₂e)

* Utility rates: \$0.14/kWh; \$0.30/m³ of NG

Top-10 energy performing colleges and universities (2024 data)

2026 Ranking	Change in ranking	College / University
1	 0	Conestoga College
2	 1	Humber College
3	 -1	Cambrian College
4	-	Loyalist College*
5	-	Wilfrid Laurier University*
6	 -1	Canadore College
7	 1	La Cite Collegiale
8	 -4	Northern College
9	-	Sault College*
10	 -1	Nipissing University

**New in the ranking*

A person in a white shirt is using a calculator over a budget spreadsheet. The spreadsheet features a bar chart with blue bars and numerical values. The text 'The WHAT: Top energy savings measures' is overlaid in a white circle with a gold border.

***The WHAT:* Top energy savings measures**

Do the simple (but not always easy) energy efficiency things

1. Building automation system upgrade

- Functionality
- Pneumatic conversion to DDC

2. Existing Building Commissioning (EBCx)

- HVAC scheduling
- Outside air monitoring and control
- Demand-based setpoint adjustment
- ***BAS recommissioning***

3. HVAC testing, refurbishment and rebalancing

- Central ventilation units
- Hydronic systems

4. Cost-effective retrofits

- Conversion to VFDs: fan/pump motors
- Conversion to variable flow systems
- Boiler plant controls and economizers
- Lighting retrofits: LED conversion, controls

5. Decarbonization readiness

- Peak demand reduction
- Exhaust air heat recovery
- Building envelope upgrades
- Heating SWT reduction
- Capital planning, electrification

Turning big challenges into opportunities

Tight budgets. Rising energy costs. Emissions targets that won't wait

- Capital dollars are scarce – but operational savings opportunities are abundant
- Low-cost optimization measures can deliver big savings fast
- These actions optimize existing systems, not new infrastructure

The opportunity:

- Immediate budget relief without major capital investment
- Real progress toward energy and emissions reduction goals
- Building capacity, trust and momentum for future investments

Optimization isn't about spending more – it's about making smarter use of what we have



The HOW:
Working together

POST-SECONDARY CLIMATE CHALLENGE

Speaking to our audience

Ontario universities/colleges:

- Continue to clean up data
- Commit to achieve Post-Secondary Climate Challenge target savings by 2030

Other universities/colleges:

- Send us your data and we'll run your targets and savings potential

Associations:

- Collaborate on broader participation, action and recognition

Industry:

- Reach out and support your higher education clients

Governments and utility companies:

- Understand the real (empirical) achievable energy savings potential
- Focus on data-driven policy and programs
- Transparency: support monitoring and reporting on progress against targets

Utility company programs

- Leverage available incentive programs which reduce the cost of implementing optimization measures, training operators, and upgrading BAS capabilities

Ontario:

- Save on Energy [vicki.gagnon@ieso.ca]




- Enbridge Gas [zoya.malekmohammadi@enbridge.com]



Other provinces and states:

- Let us know about programs, similar to Ontario's *Save on Energy's EBCx, Enbridge Gas custom incentives, and federal/provincial retrofit funding*, which provide financial support for operational and capital improvements that enhance energy efficiency

The background of the image is a photograph of a modern university building with a prominent glass facade and a grey metallic finish. The building is set against a clear blue sky. In the foreground, there is a paved walkway with several people walking. To the left, there are trees with yellow autumn leaves. To the right, there are evergreen trees. A large, white circular graphic with a gold border is overlaid on the left side of the image, containing the main text.

**Unlocking HVAC
savings: A BAS
recommissioning
guide for colleges
and universities**

POST-SECONDARY CLIMATE CHALLENGE

Project overview and approach

Purpose of the guide

- Provide a proven process from planning through to verification
- Support institutions in maximizing energy, emissions, and operational benefits through **BAS-enabled HVAC optimization**

Research project

- Started in **2024** with **Humber Polytechnic** and **Niagara College**
- Audit of operations, BAS configurations, and programming routines for major HVAC systems

Methodology

- Analysis of BAS trend data, system schematics, and campus-level energy benchmarks
- Identification of effective optimization measures and where gaps remained




Guide: Table of contents

1. Summary of the research
 2. Purpose and scope
 3. Importance of benchmarking and energy targets
 - Know where you stand
 - Set energy targets
 - Why it matters in BAS optimization
 4. Identifying optimization measures using BAS
 5. Implementation of optimization measures
 6. Embedding optimization in BAS SLAs
 7. Sustaining optimization: People, tools, and routine
- Appendix A: Sample optimization checklist
 - Appendix B: Testing and Reporting
 - Appendix C: Minimum BAS data points for HVAC equipment
 - Appendix D: Utility incentives and funding opportunities
 - Appendix E: List of Acronyms

*Scan QR code for access to
Unlocking HVAC Savings:
A BAS Recommissioning Guide
for Colleges & Universities*



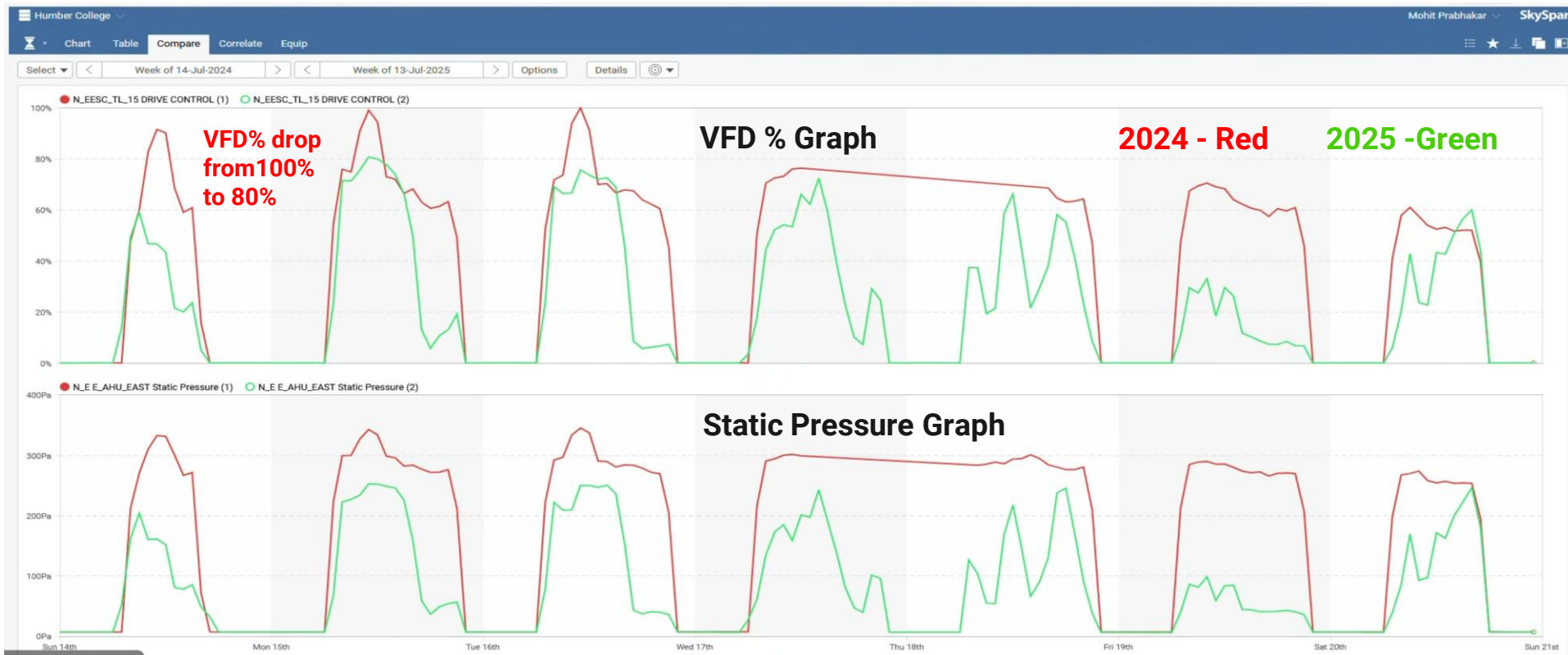


**Implementation
results:
selective measures**

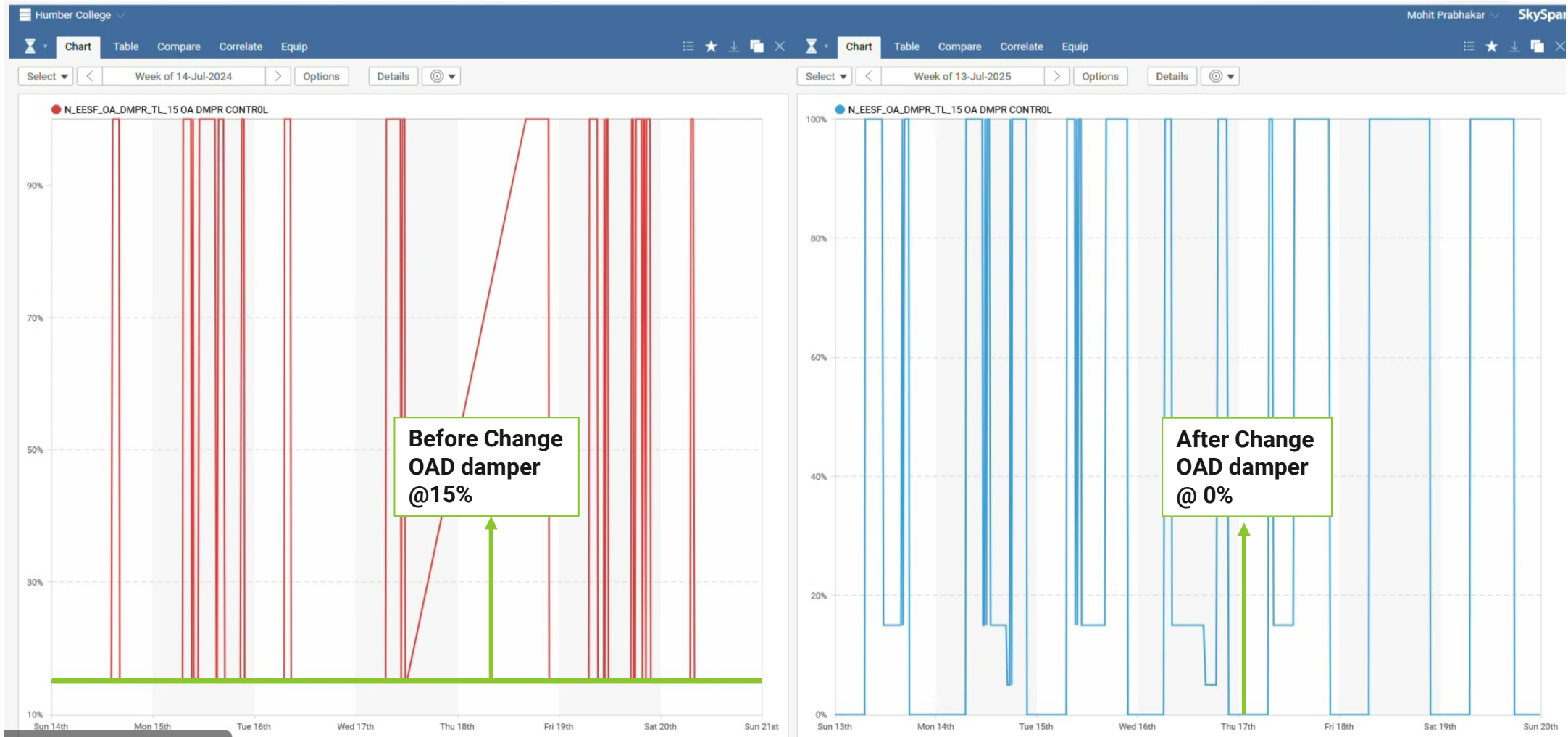
M&V – static pressure reset

Static Pressure Reset – East AHU - July 2024 vs. July 2025

- Static pressure reset properly working
- Fan speed significantly reduced



M&V – minimum outside air damper percent



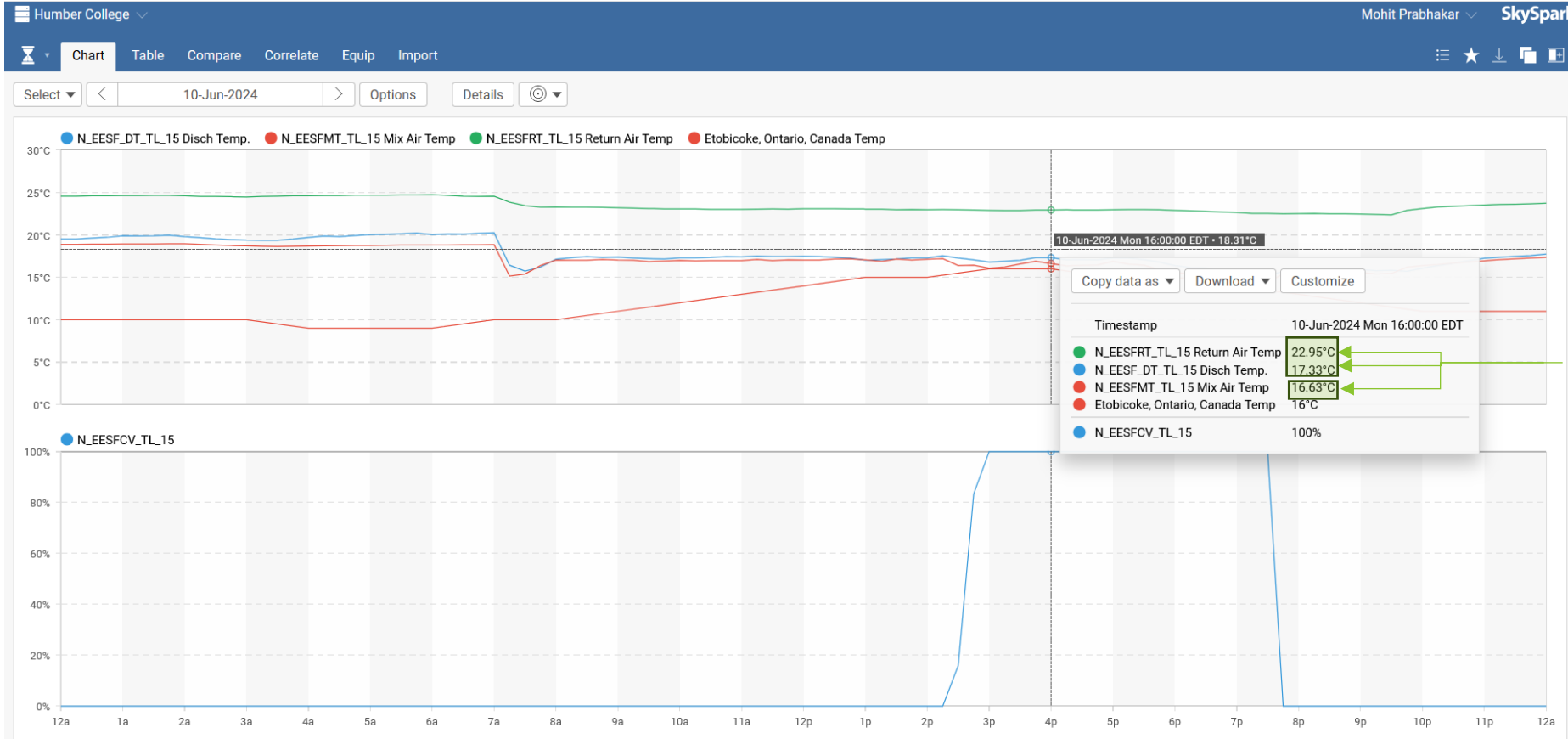
M&V – relative humidity setpoint

Humidification Setpoint – West AHU – Upgrade in March 2025



M&V – air temperature sensors

Reading Anomalies– MAT / SAT Sensor – East AHU



Implementation and key findings

- BAS optimization can yield significant **utility cost and GHG savings** without major capital investment
- Many facilities underutilize BAS data for proactive performance management
- Embedding performance expectations into maintenance contracts, operator routines, and reporting is essential
- Benchmarking and clear energy targets are **critical for prioritizing and verifying savings**
- The guide includes **tools to sustain optimization** over the long term

Panel discussion and Q&A



Amandeep Deol

Vice President
*Climate Challenge
Network*



Graham Timperon

Building Performance Analyst,
Facilities Operations,
Maintenance & Engineering
Services

Algonquin College



Aman Hehar

Associate Director, Energy
& Climate Change,
Humber Polytechnic



Marc Madi

Senior Energy Efficiency &
Decarbonization Lead
Enerlife

Next steps

- Contact us to review your results, discuss energy and decarbonization strategy
- Take action on recommissioning and operational measures – join the top savers in 2027
- Review and, if necessary, clean up your data

Join us!

Bringing climate goals to life (in challenging times)

- ✓ Be part of a growing collaboration addressing practical, data-driven, high-impact climate action
- ✓ Drill down into updated campus- and building-level utility data
- ✓ Set up interval data reporting
- ✓ Identify your best, most cost-effective measures
- ✓ Track savings achieved and cost savings potential
- ✓ Make the business case for investment in energy efficiency and decarbonization
- ✓ Network with other higher education leaders
- ✓ Help define and direct cohort projects

Stay in touch

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