



## Panel Discussion and Questions & Answers

2021 Top Energy Performing School Boards Report  
Launch webinar

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## 1 Panel discussion

### 1.1 Bruce-Grey Catholic DSB – Al Hastie

Q1: The big savings that you managed to achieve, 57% of your schools saved between 5% and 20% - what is it that's making you successful?

A1: We had a major philosophy change around energy conservation and our thought process. We're a small board, have **100% building automation (BAS), can monitor that centrally**. Any time we implement a project, or from a daily management item, we're **constantly looking at the BAS** and we're critiquing any changes made to the setpoints, and that is triggering us to have conversations with the individuals – why would there be a change. That's probably the simplest answer. There's no real silver bullet but that's what we've been working on.

Q2: Intrigued with the relationships with the caretakers. Give us a sense – do they hate you, are you “big brother” overlooking them, or is it a more collegial kind of approach where you're in it together?

A2: We have a pretty good relationship with the caretakers; they report directly to myself because we're small, so **we're able to be agile and shift quickly**. Usually it's not the caretaker themselves that wants to make the change, usually they're getting pressure from staff in the school. So we generally assist the caretaker, we'll go on site and we'll meet with the principal. Sometimes that's a really difficult conversation around why the setpoints are what they are, and [we] educate the school staff – why is that important, what does that mean if we increase [the setpoint] without reason.

### 1.2 Ottawa Catholic DSB – Paul Proulx

Q3: You regained the top spot [in the ranking]. The profile is very clear in terms of savings. 18% of schools had 5-20% electricity savings, more than a third of schools show 5-20% gas savings. If you step back to the big picture, where is your success coming from?



A3: We try to establish a culture of energy conservation, for many years now. We started our first program probably back in 2005. I'm speaking in replacement of Gerry Sancartier, our operations and energy management officer. From the start of the program in 2005, we've built on that and it's established a culture in our organization; we have representation on our school board's environmental committee, we start there, dealing directly with principals and superintendents. Trustees have taken an interest in energy conservation; we're able to deliver a fairly clear and concise message to all of the users. We do have a program where our caretakers are able to operate the buildings, they set schedules, they do setpoints. **We have about 60% building automation. We monitor it centrally but we're not controlling it centrally.**

Caretakers have operational guidelines that we provide, as long as they're within those guidelines, they are able to raise and lower setpoints, set schedules according to comfort levels. We try to deliver a message that everybody needs to buy in; teaching “lights out” when people not in classroom, have signage up for that; have a blackout program at night – 15 minutes after the last person leaves, all the exterior lights are off. We have invested heavily through capital renewal as well (roof replacements,

upgrading insulation, interior and exterior lighting retrofits, boiler plant replacements, chiller replacement), so we see the savings from that, which helped us to go from #3 spot to #1. But also during that time, we increased the areas that are air-conditioned, cooling centres in all our buildings now. We continue to grow as well – new school, additions. Participated in a couple of design charrettes with Enbridge, involving architects, school board project officers – we go through different scenarios of how to achieve top performance in school design.. we can also take that knowledge and transfer it into our renewal program. All of those things have helped us to deliver a well-built school and hopefully a well-operated school.

Q4: You're particularly successful in natural gas savings – around 40% of your schools achieved gas savings. How much of that is due to a few renewal projects in 2018-19, versus your caretakers being reminded on a regular basis and having a real interest in making the improvements?

A4: When I see the number of schools that achieved savings, I don't think it's all from capital investments. **I think operational practices are probably the leading contributor to what we see.** We have had a program in place for many years where we have monthly meter reading meetings with the caretakers, who read the meter data monthly and enter the data into a spreadsheet. We've trained them to watch out for changes, maybe an anomaly that they need to look into. If they see something they will report it right away. We have regular meetings with our board HVAC technicians, our operations officers, energy manager; we present the spreadsheets to the group and show schools that aren't performing well. In most cases it involves a visit by the HVAC technician to the school; sometimes Gerry Sancartier comes. They speak to the caretaker about schedules and setpoints and we turn things around, hopefully quicker than we would have than if we waited for utility bill data. If something on the BAS is overridden or something failed and is running 24/7, we know about it at most within 30 days and we're able to address that. Hopefully that's how we're able to avoid increases. And the operational practices that are regularly reinforced are the meetings with the caretakers.

### 1.3 Halton Catholic DSB - Steve Allum, Ryan Merrick

Q5: HCDSB is one of the most electrically efficient school boards in the province. 46% of your schools showed large electricity savings as well. Some of that was due to retrofits, but the sense is that there's more going on than that. What are the standards/practices that you have? How much would you attribute to capital investment versus board-wide smart operations?

A5 (Ryan): Similar to Al and Paul, there has been a lot of capital investment over the last few years. But when we look at the numbers, **there are improvements across way too many schools to be just capital renewal.** All of our **building automation systems are tied back centrally** so we can control them from a single point which definitely helps us operate all our buildings efficiently. We are very fortunate at Halton Catholic, being a high-growth area, that we do have a lot of newer schools, but it also comes with challenges – 99.5% of our floor area is air-conditioned. We have **real-time utility monitoring** across all of our schools now, Steve was instrumental in getting that up and running in 2015-2017. A lot of work getting that rolled out. Now includes water as well. It's been a really good journey on



the conservation side of things. Paul talked about engaging facility staff – we’re also trying to reach out to our occupants. Steve worked on rolling out energy management monitors in school entrances. We used savings money that we had from energy efficiency projects. Trying to get a bit of competition – how your school ranks against other schools... It takes a lot of effort and a lot of legwork to drive those engagement initiatives, especially when you compare to a large-scale HVAC project, but I think we’re really seeing the benefits.

A5 (Steve): Steve: in 2017-2018-2019, a lot of capital investment (lighting with controls, boilers, VFDs, heat pumps, roofing, demand-controlled ventilation) – all of that contributed to our savings. As well as what Ryan mentioned – real-time energy monitoring system. I think that was the first year that I really got a handle on **alarming and submetering**: had separate shoulder season/summer/winter alarms, **submetered a lot of our portables** (we have 225 portables for only 57 schools, makes up a lot of our electricity use); vestibule heaters, pumps and motors, and even on the gas side – the heat recovery systems – all that is monitored real-time. **I look at that daily and cross-reference with building automation.**

Q6: The biggest difference between the top 20 boards compared to the others was the avoidance of energy use increases. You did not allow the creeping increases, the damper to fail and go unnoticed, to allow a service contractor to switch an air handling unit into manual and then forget to turn it back... What would you attribute to? Key factors to avoiding increases?

A6 (Steve): Steve: biggest for us is the dedicated energy management team, building automation at all of our schools. The team is constantly looking at the operations of the schools, so that problems are looked at as soon as possible. Keeping up on our preventative maintenance in both the schools and the portables. Generally speaking, **continuous oversight of the operations of our schools.**



Q7: Question around setpoints is interesting and normal, but schedules are more important. The other observation is – staying on top of things. You have fairly large building portfolios, you’ve got a handle on all of them, the right people have the right information. What we heard from you – Halton Catholic is working with real-time monitoring; Ottawa Catholic has it just in the high schools but I believe Paul you mentioned it’s not a key part of the strategy right now, because you need resources [for more real-time data and to read it]; Bruce-Grey has building automation technology. Halton Catholic is inclined to let the BAS run the show as opposed to having active involvement in that area by caretakers. Ottawa Catholic does have active involvement of the caretakers as the central strategy; you invest in having them informed. So there is no one approach; ultimately what matters is that you’re on top of things; the degree to which you use technology/deploy people [differs]. Core philosophy in this area?

A8 (AI): I’m in the BAS daily, checking for anomalies. Alarm systems for trouble locations. The big message for me would be – make sure your data’s right, your equipment’s running properly; when you upgrade something – make sure your investment considers energy conservation. Take it to the highest level you can afford.

A8 (Ryan): I know Steve talked about our energy team and our building automation team... We're a medium-sized board, we are a pretty small facilities management group. Our building automation team is one person, our energy team is one person – Steve, but they all sit in the same area back when it used to be in person, work really well together, in touch on projects. Our construction team is one person; bounce things off each other. **When you combine energy management with the operations of the buildings and renewal & construction as well, they feed off each other and push in the same direction.**

A8 (Paul): several years ago, we had one year where **we had an agreement to withdraw one elementary head caretaker and one secondary head caretaker to work centrally on different strategies for energy conservation.** We had them tour around schools, set operational practices for each building, written instructions for building operators in those schools, and we trained on those parameters over and over again as caretakers move around the board (they are allowed to relocate based on vacancies). So we often have turnover but we have **site-specific operational guidelines.** As projects are implemented and equipment is renewed, we ensure that there's training provided by the project contractors, so head caretakers know what was installed, whether it was implemented with standalone controls.. We try our best to ensure that the caretakers understand how the school works, what the parameters are. Maybe it's aspirational, but we are a little bit hands-off when we set these programs in place, and we monitor them through meter readings and BAS, but we rely on building operators to operate the buildings. We foster a culture. Being #1 in the province will hopefully give us the ammunition to carry on with this.

## 2 Questions & Answers

| # | Question  | Answer  |
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| 1 | What are the heating/cooling setpoints used by the top performing boards?                 | <p>a. Paul (Ottawa Catholic): our guidelines have 21 deg for heating, slowly ramping that up in the fall, 19 deg first and then to 21 in the dead of winter. Cooling – 24 deg. We try to run tight schedules on occupancy; try to stay with a “student-occupied” schedule. Unoccupied setpoints – nighttime setback of 17 deg in winter, 26-27 in summer.</p> <p>b. Al (Bruce-Grey Catholic): setpoints relatively same; allow buildings to go down to 16 in unoccupied mode in winter; unoccupied in summer – 30. We are considering changing that to prevent humidity issues, trying to control that a bit better.</p> <p>c. Ryan (Halton Catholic): ours are very similar, a little bit lower on setbacks on cooling (humidity).</p> <p>d. Marc Paris: Heating and Cooling setpoints during occupied times are set at 18 - 23 for Superior Greenstone District School Board.</p> |
| 2 | Are you further reducing these setpoints during summer and Christmas/march break holidays | We are not. Our setbacks remain static / consistent   |

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| 3 | How do the boards handle "partial occupancy" periods? i.e. only one or two staff are in the building.                                      | BGCDSD: We do not change our occupied set points for minimal staff in the building. Our building schedules remain the same. We also leave A/C on in the summer months.   |
| 4 | How much involvement/support is received for the Director's Office and or the Superintendents at your boards? How important has this been? | BGCDSD: I keep the Director and my Superintendent updated on our energy conservation progress. It is embedded in our "5 yr Strategic Plan" under Stewardship. Updates to the Sr Team and Trustees provide context, so that they can assist if needed or as requested. Without their support, conservation goals are very difficult to implement and achieve. |