BC Hydro Demand Response Program

Reducing Demand for School Buildings

WHAT IS DEMAND RESPONSE?

Demand Response (DR) is a program that encourages electricity users to temporarily reduce or shift their energy use during BC Hydro peak demand periods. It helps balance the grid, improves system reliability, and can be carried out manually or through automated systems.

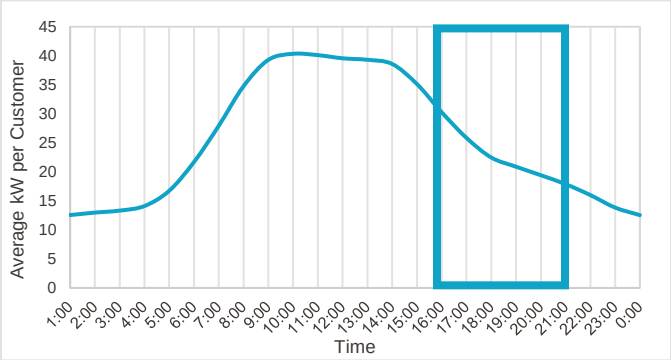
WHY DO DEMAND RESPONSE?

- To reduce energy costs without disrupting operations.
- To help BC Hydro maintain a more resilient, efficient power system.
- To accelerate the transition to a cleaner energy future.

DEMAND OPPORTUNITY

School buildings offer strong demand response potential because:

- School buildings typically operate on a fixed schedule, allowing for reliable participation in DR events.
- DR events are typically scheduled near the end of the school day when it is often more feasible to adjust or shut off equipment with minimal disruption to staff and students.
- Large secondary schools typically have high energy consumption and are often equipped with building automation systems that make them well suited for significant load adjustments.



Typical Load Profile for School Buildings

PROGRAM OVERVIEW

Program Incentive	$50 per average kilowatt (kW) of demand reduction per season
Event Duration	Up to 20 events per season, no more than four hours each
Event Season	November - March
Advanced Notification	One day notification prior to an event
Participation	Must participate in at least 50% of all events to be eligible for incentive

PARTICIPATION BENEFITS

FINANCIAL INCENTIVES

NO COST TO ENROLL

RISK-FREE

DEMAND RESPONSE OPPORTUNITIES FOR SCHOOLS

Building System Adjustments

- Disable domestic hot water recirculation pump(s).
- Temporarily modify HVAC schedules, focusing on unoccupied classrooms or multipurpose rooms.
- Raise cooling setpoint or lower heating setpoint temperature on HVAC equipment and refrigeration equipment for classrooms and common areas before the event.
- Reduce ventilation to after-school occupancy levels.
- Lockout back-up electric heating sources (e.g., baseboard heaters) in staff rooms.
- Reduce static pressure setpoint in air handling units, resulting in a reduction of fan speed.

Behavioural Changes

- Turn off lighting in unoccupied spaces such as multipurpose rooms, gyms, cafeterias, etc.
- Reschedule energy-intensive activities such as cleaning, science experiments, and building maintenance.
- Turn off laptops and unplug chargers.

BC Hydro
Power smart

CASE STUDY: SCHOOL DISTRICT #43

School District 43 (SD43) joined BC Hydro's DR program primarily out of curiosity. They saw it as an opportunity to explore what type of DR electrical load reduction could be achieved with minimal investment. The potential financial benefits of DR program participation were viewed purely as a bonus.

SD43 started with a pilot at five schools: four secondary schools and one middle school, to assess the feasibility of broader DR program participation. These schools were chosen due to their high electricity consumption as this offered the greatest opportunity for both impact and learning potential.

Source: https://www.sd43.bc.ca/school/pittriver/Pages/default.aspx#/=

During the 2024/25 season, SD43 took part in five out of seven DR events. The DR opportunities the district focused on at the pilot schools included implementing earlier night setbacks that aligned with each DR event's timing and turning off unnecessary lighting.

Participation in the DR program delivered several benefits including:

- Gave staff a clearer understanding of current operational constraints and identified inconsistencies, such as equipment not being powered down as intended and lights remaining on unnecessarily.
- Helped initiate internal discussions about building controls and automation.

"Sign up a couple schools and then learn from it. See how it runs and works out."

- Adrian, School District 43

SD43 plans to continue its enrollment in the program and are currently undergoing an assessment to identify additional opportunities to participate in the program, aiming to enhance their participation for the upcoming event season, such as creating demand response schedules for specific equipment in addition to the regular night set back schedules.

SCHOOL DISTRICT #61

School District 61 was able to implement several effective changes in the 2024/2025 season, particularly in schools with electric heating. Prior to events, they reduced ventilation to after-school occupancy levels the moment that classes were completed and students had left the buildings. Temperature set-points in unoccupied zones were adjusted to reduce electricity use. Exceptions were made for after-school events and rentals. As a result, the district was able to lower their demand during DR events and received a $20,000 rebate on their bill through the program.

FAQS

HOW DO I SIGN UP?

Enroll in the program by following the enrollment link on our webpage, **Demand Response for Business**, and logging into your MyHydro account. You'll need the following information:

- A list of the sites you want to enroll.
- The name and contact information for the person on site who will receive event notices.

HOW WILL I KNOW HOW IT WENT?

Within 48 hours after the event, we'll send you an email letting you know the results of the event.

HOW ARE MY INCENTIVES CALCULATED?

BC Hydro monitors your kW demand during each demand response event compared to the kW demand value from the five eligible days prior to the event. Your incentive is calculated based on your average kW demand reduction across all demand response events in a season and you receive $50/kW for all savings, with no penalty if there are none.

HOW DO I GET MY INCENTIVES?

At the end of each event season, you will receive a season ending email outlining your overall performance along with eligible incentives. Your total rewards earned during the season will be applied as a rebate on your subsequent BC Hydro bill.