BC Hydro Demand Response Program

Reducing Demand for Advanced Education

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.

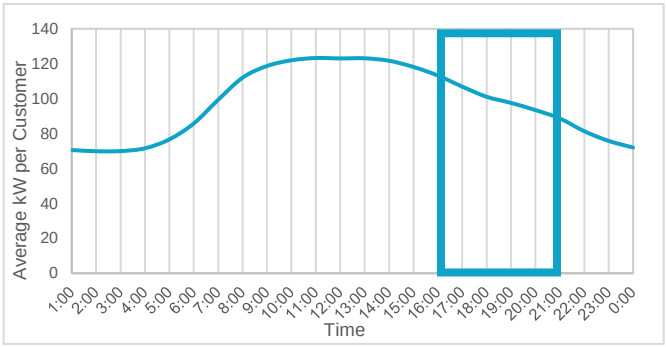
WHY DO DEMAND RESPONSE?

- 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

Advanced education buildings offer strong demand response potential due to:

- Large campuses offer diverse building types that may offer flexible loads.
- DR events are typically scheduled near the end of the day when buildings may be unoccupied.
- Most academic and administration facilities are equipped with building automation systems that may enable load adjustments with minimal operational and occupant disruption.



Typical Load Profile for Advanced Education 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 ADVANCED EDUCATION

Building System Adjustments

- Pre-cool or pre-heat academic buildings with electric heating or cooling before DR events.
- Reduce static pressure setpoint in air handling units resulting in a reduction of fan speeds.
- Raise cooling setpoint temperature or lower heating setpoint temperature on electric HVAC equipment and refrigeration equipment for occupied lecture halls, libraries and research labs.
- Lower domestic hot water setpoint and disable recirculation pump(s) for electric heaters.
- Lockout back-up electric heating sources (e.g., baseboard heaters).
- Reduce or cycle HVAC in low-priority areas (gyms, auditoriums, labs with flexibility).

Behavioural Changes

- Discourage people from using space heaters and kitchen equipment. For dorms, remote voluntary conservation (e.g., “Power Down Hours”)
- Reschedule energy-intensive activities such facility cleaning and communal laundry in residences.
- Turn off or dim non-essential lighting in corridors, lobbies, and non-instructional spaces.
- Turn off computers, laptops, chargers, printers, copiers, etc.

BC Hydro Power smart

CASE STUDY: UNIVERSITY OF NORTHERN BRITISH COLUMBIA

The University of Northern British Columbia (UNBC) in Prince George joined BC Hydro's DR program to reduce energy use and demand costs. Although the operations team had shown interest in implementing demand response measures before, no formal steps had been taken. A presentation by a BC Hydro program representative sparked interest and showed how easy and beneficial it is to join by providing links to sign-up.

Source: https://wicltd.com/portfolio/northern-sports-centre-unbc/

UNBC was initially hesitant to enroll the main campus due to its size and uncertainty about achieving noticeable demand reductions across all buildings. However, due to the way the DR program is structured - with no cost to enroll, no penalties if savings are not achieved and financial incentives if they are - they found no clear drawbacks to enrolling the entire campus.

UNBC focused on simple, high-impact opportunities at a single site, their sports centre, due to its standalone utility account and easier system setup. A DR sequence was added to the Building Management System, activated only during scheduled DR events. During these events, a non-critical air handling unit was turned off, and static pressure set points on the two largest air handling units were lowered, thereby reducing fan speeds. This resulted in an estimated 10% reduction in demand.

During the 2024/25 event season, UNBC took part in six out of seven DR events. Each went well, with the university successfully lowering their demand with no noticeable impact to building occupants.

Participating in BC Hydro's DR program delivered multiple benefits:

- Easy participation through automated tracking and feedback.
- Financial incentives and quick results.
- Internal recognition for demand saving actions.
- Broader energy management engagement across the institution.

"Go ahead and do it. There's no harm in signing up."

"Try one thing that you think will have an impact. When you see a good result you will get some motivation to try something else."

- Sahil, UNBC

UNBC plans to expand its participation in the DR program in 2025 by replicating the successful strategies used at the sports centre in other buildings around campus. UNBC is also exploring ways to integrate DR practices into day-to-day operations.

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.