BC Hydro Demand Response Program

Reducing Demand for Retail 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.

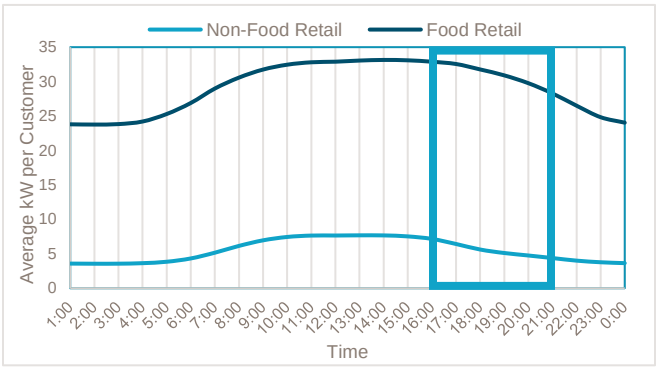
WHY DO DEMAND RESPONSE?

- 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

Retail buildings such as big-box stores, supermarkets, malls, and chains offer strong demand response potential because:

- Facilities such as frozen storage (<0°C) and warehouses typically experience large demand peaks and have consistent energy usage patterns.
- Food and non-food retail buildings offer diverse building types that may offer flexible loads.
- Peak demand periods typically align with demand response events.
- Large, enclosed shopping centres are typically equipped with building automation systems that may enable load adjustments with minimal disruption.



Typical Load Profile for Retail 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

PEAK DEMAND ALIGNMENT

DEMAND RESPONSE OPPORTUNITIES FOR RETAIL

Building System Adjustments

- Lockout back-up electric heating sources (e.g., baseboard heaters) in stores and back offices.
- Disable noncritical exhaust fans in areas such as storage rooms and unoccupied washrooms.
- Raise cooling setpoint temperature or lower heating setpoint temperature on electric HVAC and refrigeration equipment for stores.
- Pre-cool or pre-heat stores before peak hours.
- Modify or adjust HVAC operating schedules to setback or unoccupied mode during the DR event.
- Reduce static pressure setpoint in air handling units, resulting in a reduction of fan speed.

Behavioural Changes

- Discourage staff from operating space heaters in stores and turn off interior and exterior water features.
- Reschedule energy-intensive activities such floor cleaning, dishwashing, and laundry.
- Turn off or dim non-sales lighting.
- Power off non-sale signage and computers in breakrooms.

BC Hydro
Power smart

CASE STUDY: WHOLESALE FLOWER GROWERS

Quik's Farm Ltd. joined BC Hydro's Demand Response program after being introduced to it by a BC Hydro representative. They saw it as a fantastic opportunity to receive financial incentives, especially since enrollment came at no cost. Their buildings consist of large-scale crop-focussed greenhouses with significant artificial lighting demand.

Source: https://quikfarm.ca/farm-gallery/

Quik's Farm Ltd. started with a pilot at two of their three greenhouses. Their primary demand response strategy focused on turning off lights during DR events as they anticipated this action would have the largest impact. Quik's Farm Ltd. initially had concerns about potential temperature drops resulting from turning off lights in the greenhouses, as the lights serve as passive heat sources for the crops. However, the DR program's flexibility allowed them to not participate in DR events on low temperature days if they wished.

During the 2024/25 event season, Quik's Farm took part in all seven DR events. There was one event where one building did not participate due to weather conditions. For events that began earlier in the day, around 3 to 4 p.m., all the lights were initially turned off. However, after 5 p.m., only about 80% of the lights remained off.

DR events went very well, with minimal disruptions to operations and to the crops, and achieving at least a 70% demand reduction. The program also delivered several additional benefits:

- Improved operational awareness.
    - Participants realized having the lights constantly on was unnecessary, as turning it off during DR events had no impact on crop performance. This improved awareness to potentially implement this in their day-to-day operations.
- A substantial rebate on their bill.

"Don't be afraid. There are good benefits to be had."

- Wim, Quik's Farm Ltd.

Following the success of their two buildings in the demand response program, Quik's Farm plans to enroll a third building next season. The new facility will feature dimmable lighting, enhancing flexibility for program participation. Fans will also be installed in the greenhouses this summer, offering another potential demand reduction opportunity.

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.