Food & Beverage Industry



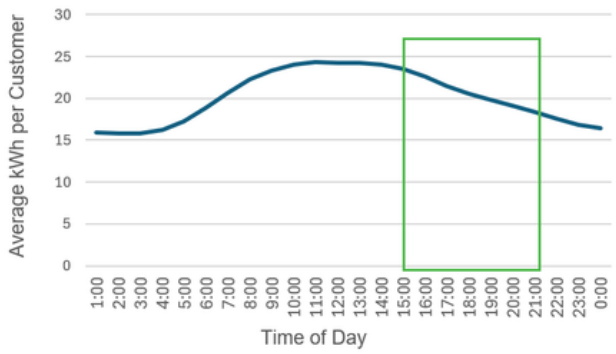
BC Hydro Demand Response Program

DEMAND OPPORTUNITY

Food & Beverage offers strong demand response potential because:

- They have large electrical loads such as compressed air, processing equipment, packaging lines, and material handling systems.
- Many processes have storage or operational flexibility that allows loads to be shifted temporarily while maintaining product quality and production requirements.
- Production, cleaning, and maintenance can often be rescheduled to avoid peak demand periods.

Average Load Profile for Food & Beverage



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 1 – March 31
Advanced Notification	One business day
Participation	Must have successfully performed in at least 50% of all events

PARTICIPATION BENEFITS

FINANCIAL INCENTIVES

NO COST TO ENROLL

RISK-FREE

INDUSTRIAL DR BEST PRACTICES

- Develop a DR event plan that identifies specific systems or equipment, control actions, monitoring requirements, and procedures for actions before, during, and after the event, including returning systems to normal operation.
- Assign clear roles and responsibilities so staff understand required actions, and ensure adequate staffing, particularly if the event occurs outside normal operating hours.
- Focus on controllable loads that operations staff can adjust through centralized plant SCADA/DCS or local controls.
- Monitor potential adverse impacts (including building conditions, inventory levels, product quality, safety) and determine any critical levels which will require return of systems or equipment to normal operation.
- Use automated control systems where possible to implement DR actions quickly and consistently. This could include pre-programmed shutdown sequencing.
- Perform a mock DR event when conditions are suitable. Use lessons learned from the test event to identify flaws and correct or adjust where possible.
- Following DR events, review performance and document lessons learned to improve future event execution.



“Maintaining product quality is always the priority, but we've found ways to participate in demand response by using the flexibility within our operations and refrigeration systems.”
- RUSSEL, OKANAGAN SPRING BREWERY

CASE STUDY: OKANAGAN SPRING BREWERY

For over four decades, Okanagan Spring Brewery has operated a brewing and packaging facility in Vernon, BC. Maintaining precise temperatures throughout fermentation and aging is critical to product quality, making refrigeration one of the facility's largest electrical loads. When Okanagan Spring first learned about BC Hydro's Demand Response (DR) program, the idea of reducing site peak demand during event windows seemed challenging in an operationally complex manufacturing environment. However, participation quickly revealed benefits beyond incentive payments. As the team examined how electricity was being used across the facility, they discovered they did not have a complete understanding of how peak demand was created. Analysis showed that refrigeration and other systems starting simultaneously could create demand spikes roughly 25-30% above normal operating levels.

Rather than shutting down brewery operations, the team focused on identifying process flexibility within existing systems. By understanding where electrical demand was occurring and which refrigeration processes could be temporarily adjusted without affecting product quality, the brewery developed a DR strategy that worked in operational constraints.
Okanagan Spring's first DR season produced mixed results, including one event with a 55% reduction from baseline and another with limited success. These experiences helped the team refine its approach, leading to an average 53% reduction across five events the following season.
After the initial season, the team reviewed event performance and established a structured DR process outlining key actions, responsibilities, and operating strategies. This helped standardize event preparation and improved performance in subsequent seasons.

Demand response has become one component of Okanagan Spring's broader energy management efforts. The insights gained through event participation helped reinforce the work of the brewery's cross-functional energy team and supported additional energy-saving opportunities.
Beyond event results, demand response encouraged Okanagan Spring to take a closer look at when and where electricity is used throughout the facility. Improved visibility into energy consumption has helped the team better understand operational demand drivers, strengthen energy management practices, and identify future opportunities for both demand and energy reduction.

DEMAND RESPONSE OPPORTUNITIES

- Shift energy-intensive production activities outside event windows.
- Reduce packaging and material handling operations where feasible.
- Optimize refrigeration loads using pre-cooling and thermal storage.
- Reduce non-critical compressed air demand.
- Stagger equipment shutdowns and restarts to avoid peak loads.
- Adjust ventilation and HVAC in non-critical spaces.
- Schedule cleaning, sanitation, and defrost cycles outside event windows.
- Align maintenance and planned downtime with demand response events.
- Power down non-critical or idle equipment.
- Utilize on-site thermal or battery storage systems.

HOW DO I SIGN UP?

Enroll in the program via the Demand Response Behavioural link or QR code, log into your MyHydro account and provide:

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

BC Hydro