

CASE STUDY

Collège André-Grasset



Project Details

Location

Montreal, Quebec

Number of Buildings

1 educational building

System Implemented

LED lighting, recommissioning, energy recovery, boiler room, condensing water heater, thermostatic valves, circulation pumps

Project Goal

Reduce energy consumption and the carbon footprint while improving occupant comfort

Impact at a Glance

✓ Annual energy savings: **\$62,911**

✓ Annual GHG reduction: **151** tons of CO₂/year
(32.1% of emissions)

✓ ESE model: guarantees on costs, savings, and grants



Challenge

Collège André-Grasset, a college located in northern Montreal, was dealing with aging, inefficient, and energy-intensive heating and lighting systems.

The end-of-life equipment was causing significant energy losses, thermal discomfort for occupants, and a disproportionate carbon footprint.

The client wanted to modernize its facilities while keeping costs under control, leveraging available grants, and guaranteeing results through an ESCO ' performance contract.



Methodology

In-depth energy audit of existing heating, ventilation, and lighting systems.

Identification of inefficiencies and end-of-life equipment affecting performance.

Assessment of hydraulic and thermal imbalances in the distribution networks.

Design of energy efficiency measures tailored to the school's operational constraints.

Financial structure incorporating Hydro-Québec and Énergir grants, and performance guarantees.



Solution

- ✓ Complete modernization of general lighting to LED throughout all spaces.
- ✓ Recommissioning and addition of control points to optimize system regulation.
- ✓ Optimization of energy recovery in existing systems.
- ✓ Modernization of the boiler room and installation of a high-efficiency condensing water heater.
- ✓ Installation of thermostatic valves on every radiator in blocks A and B for precise zone-by-zone control.
- ✓ Replacement of the heating system pumps with variable-speed equipment.

All work was carried out on a turnkey basis (ESE), including project management, design, engineering, construction management, performance monitoring (M&V), operator training, and an awareness campaign for occupants.



The Ripple Effect

- ✓ Reduced operating costs thanks to guaranteed energy savings of \$62,911/year, directly contributing to the school's budget balance
- ✓ Annual reduction of 151 tons of CO₂, representing 32.1% of the building's emissions: a concrete contribution to the college's sustainable development goals
- ✓ Improved thermal and lighting comfort for students and staff, fostering a better learning environment
- ✓ Replacement of outdated equipment, reducing the risk of breakdowns and improving long-term operational reliability
- ✓ A replicable model for other educational institutions in the Quebec college network

