GDI AINSWORTH

CASE STUDY

Conversion of decorative lighting fixtures and sports field lighting to LED

Union des Municipalités du Québec (UMQ)



Project Details

Location
Approximately 35 cities in Quebec, Canada

Number of Buildings
Approximately 35 participating municipalities (more than 80 interested cities)

System Implemented
Decorative LED lighting and sports fields, intelligent lighting management systems (ILMS), photometric designs compliant with IES RP-6/RP-8 standards

Project Goal
Convert the decorative lighting and sports field lighting networks of Quebec municipalities to LED technology as part of a turnkey group purchasing program (ESCO)

Impact at a Glance

- Cost guarantees and grants provided by GDI Ainsworth Energy
- Simultaneous deployment across all regions of Quebec (2023–2026)

Challenge

In June 2023, the Union des Municipalités du Québec (UMQ) launched a group purchasing program to enable its members to modernize their outdoor lighting infrastructure (decorative fixtures and sports fields) by switching to LED technology. More than 80 Quebec cities expressed interest, demonstrating strong potential for transformation on a provincial scale.

The main challenge was coordinating simultaneous projects across dozens of municipalities spread throughout all regions of Quebec, each with varying local constraints: standards set by the Quebec Ministry of Transport (MTQ), distribution networks specific to each city, and the availability of local electrical contractors. Ensuring a consistent level of quality, compliance, and photometric accuracy throughout the entire deployment represented a major organizational and technical challenge.

Methodology

Field surveys and inventory of existing lighting infrastructure in each participating municipality.

Photometric design compliant with IES RP-6/RP-8 standards, including MTQ requirements, with energy calculations and layout plans.

Coordination of grants available through applicable government and quasi-public programs.

Daily use of a geomatics tool to coordinate simultaneous installation teams across the province.

ESCO (design-build) delivery model with guaranteed costs and subsidies, supervision of local electrical contractors by Énergère, and quality monitoring and management.

Solution

- Province-wide retrofit of decorative and sports field lighting fixtures to LED technology.
- Implementation of intelligent lighting management systems (ILMS) in the relevant projects.
- Comprehensive photometric analyses conducted by Ainsworth Energy (Énergère), including the MTQ's specific requirements for public roads.
- Subcontracting of installation work to local electrical contractors in all regions of Quebec, supervised by Ainsworth Energy.
- 10-year manufacturer's warranty on installed luminaire.
- Support for the municipal information campaign through real-time access to project progress updates and the preparation of a program promotion document.

The Ripple Effect

- **Financial:** Significant reduction in energy costs for participating municipalities, freeing up budgets for other local needs. Total program value: approximately $15 million with $1.5 million in guaranteed grants
- **Environmental / ESG:** Reduction in the collective carbon footprint of participating municipalities, contribution to Quebec's decarbonization goals, and improvement of communities' energy resilience
- **Operational:** Improved quality and safety of public lighting for residents (decorative urban spaces and sports fields). The 10-year manufacturer's warranty reduces long-term maintenance risks for municipalities
- **Strategic:** The UMQ group purchasing model demonstrates that a collaborative intermunicipal approach can accelerate the energy transition on a large scale. This model is directly replicable for other categories of municipal infrastructure