

Nergica (Nergica) Cégep de la Gaspésie et des Îles <u>Q Gaspé, QC</u>

NERGICA



ABOUT Nergica

Nergica is a centre of applied research that stimulates innovation in the renewable energy industry through research, technical assistance, technology transfer and technical support for businesses and communities. Its mission: creating new opportunities for renewable energy.

More precisely, Nergica specializes in developing solutions for renewable energy integration, optimizing wind farm and solar array performance and supporting growing SMEs. The organization carries out its activities by drawing from a multidisciplinary team of experts, research infrastructures in a natural setting that are unavailable elsewhere in Canada, and custom services that support innovation.

Initially recognized for its expertise in cold climates and O&M, Nergica also offers advanced services for the development and assessment of new technologies, commercialization of innovations, adapted meteorology, microgrids, energy storage and grid management. Initially known as the TechnoCentre éolien when it was founded in 2000, Nergica is an official college centre for technology transfer (CCTT) and is affiliated with the Cégep de la Gaspésie et des Îles.



Nergica research site Photo credit: Jacques Gratton



Contact Nergica

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RESEARCH AND INNOVATION EXPERTISE

EXPERTISE

- 1. Integration of renewable energies
- 2. Solar photovoltaic
- 3. Wind energy

Previous Research Projects

- Feasibility Study for Adaptation of Wind Power Technologies to Cold Climates
- Validation of an Energy Planning Software for Communities
- Analysis of impact of climate change on wind power potential
- Performance analysis of ENERCON blade heating system
- Technical and economic study for integration of PV solar units for mining exploration camps
- Development of a short-term forecasting system for renewable resources in microgrids
- Analysis of solar PV performance in cold climates
- Contribution to higher solar PV penetration rates in off-grid hybrid diesel systems
- Renewables and energy storage integration study for the chalet "Relais de la Cache"
- Proposal of a solution to improve the energy efficiency of an industrial load
- Performance assessment of preventive shutdown strategy for icing events
- Optimization of a PV and storage system
- Proposal of a solution to improve the energy efficiency of an industrial load
- Microgrid in downtown Lac-Mégantic: study of opportunities and development of regional expertise
- · Pairing of renewables with diesel generators
- Innovative energy management
- Testing of anemometers over a three-year period
- Performance assessment of a retrofitted ice protection system
- Implementation of icing predictions for the operation of a wind turbine ice protection system
- Assessment of icing and its impact on wind energy production
- Ice forecasting
- Optimization of a PV and storage system
- Optimization of wind potential assessments and associated uncertainties in the pre-construction phase
- Turbine control using ice forecasting and detection
- Design and sizing of a renewables-based electrification system for an arena
- Drone inspections
- Optimization of an oceanographic buoy
- Feasibility study for "PowerCone"
- Development of an algorithm using a met mast for ice detection
- Information Session on Solar, Wind, and Hydro Power in



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