



YOUR PARTNER **IN RENEWABLE ENERGY**



Rematek Energy is the largest distributor of specialized renewable energy products in Eastern Canada. For almost 15 years now, we have been offering the widest range of products and professional services in the field to the general public (through our installation partners), to commercial, industrial and institutional (C&I) property owners as well as to electric utilities.



**SERVICES TO
PARTNER-INSTALLERS**



**SERVICES FOR UTILITIES,
COMMERCIAL, INDUSTRIAL &
INSTITUTIONAL SECTORS**



**PARTNER
PLUS PROGRAM**



ACHIEVEMENTS



SERVICES TO **PARTNER- INSTALLERS**

In addition to providing you with high quality products, Rematek Energy can help you prepare your service proposals, design a system adapted to your customer's needs – and budget - or select the most appropriate products.

Our brand-new *PV Designer Off-Grid* software is your companion based on artificial intelligence and it is available free of charge on your Rematek Energy customer portal.



RENEWABLE ENERGY TRAINING AND **CERTIFICATION PROGRAM**

Rematek Energy offers you, as a partner-installer, a series of training sessions that will help you improve your knowledge and skills in renewable energy. These sessions are brought to you by our partner Stardust Solar, leader in the field of photovoltaic training. The courses are presented by an experienced professional. In addition, the sessions are mandatory for new installers wishing to become part of our partner network.



REFERENCING PROGRAM

We systematically forward all potential customer requests from their neighbourhood to our partner-installers through our automated referral program. Every day, requests from individuals interested in renewable energy are redirected to the appropriate partner-installer.



OVER **200** ACTIVE CUSTOMERS,

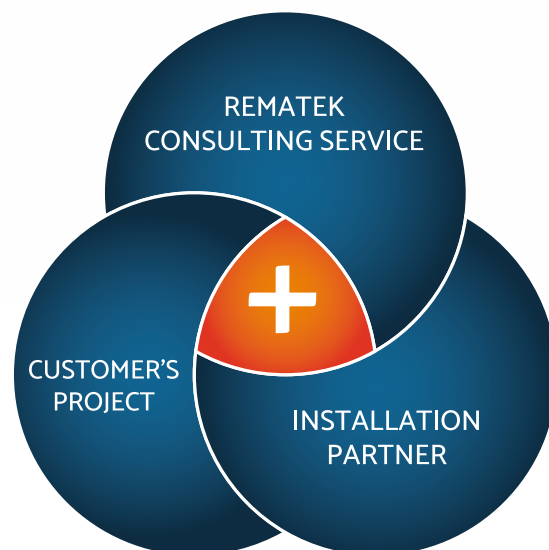


INCLUDING SOME **100** PARTNER-INSTALLERS

Our partner-installers form a network of competent and reliable professionals covering all of Eastern Canada.



The Partner Plus program allows installers and Rematek Energy to work closely together on large-scale projects, thereby increasing the volume of our joint businesses. By relying on our engineering expertise, our partners can meet challenges of all sizes. And for Rematek Energy, we can develop more opportunities everywhere by leveraging the installation expertise of our partner-installers.



PARTNER 

SERVICES OFFERED TO THE UTILITY, COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL SECTORS

Rematek Energy offers a wide range of services to businesses and organizations in the utility, commercial, industrial, and institutional sectors. From consulting services for operations, production, storage, and management of various forms of renewable energy, we offer different collaboration scenarios according to your needs.

We are the largest distributor of materials and have the largest network of partner-installers in Quebec. But we offer much more: we put the expertise of our seasoned experts at your service to accompany you in your project, at a key stage or from start to finish.



YOU CHOOSE

- Turnkey solution
- Support service
- Expert consulting service

With the turnkey solution, a relatively rare service on the market, we take care of all the steps of the project, from the very assessment of its feasibility to the maintenance activities following commissioning. You benefit from a smooth process from beginning to end and an unparalleled synergy provided by a single team with proven expertise.



FEASIBILITY STUDY

Evaluation of the energy production capacity, accurate cost estimates and preparation of financial projections.



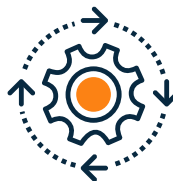
ENGINEERING

Preparation of mechanical, electrical, structural plans and coordination with Hydro-Quebec for the connection.



TRAINING

Training of the customer on the operation of the system.



MAINTENANCE

Online monitoring of production system, performance reporting, troubleshooting and management of corrective actions as required.



SUPPLY

Supply of materials directly from our distribution centers.



PROJECT MANAGEMENT

Coordination of deliveries to the construction site and construction work.



CONSTRUCTION

Installation of the system through our network of partner-installers.



COMMISSIONING

Production of test reports.

SUPPORT SERVICE

If you are thinking of having a team from your network do the installation but would like to get advice from experienced professionals, choose our support services. This will ensure that you develop a viable project that is logically structured and planned while providing your installers valuable assistance during the crucial stages.

Available services include :

- Feasibility study
- Preparation of plans and specifications
- Project management
- Training
- Operations and maintenance



CONSULTING SERVICE

If you're looking for advice, you can also take advantage of the depth and breadth of our expertise by choosing our consulting service.

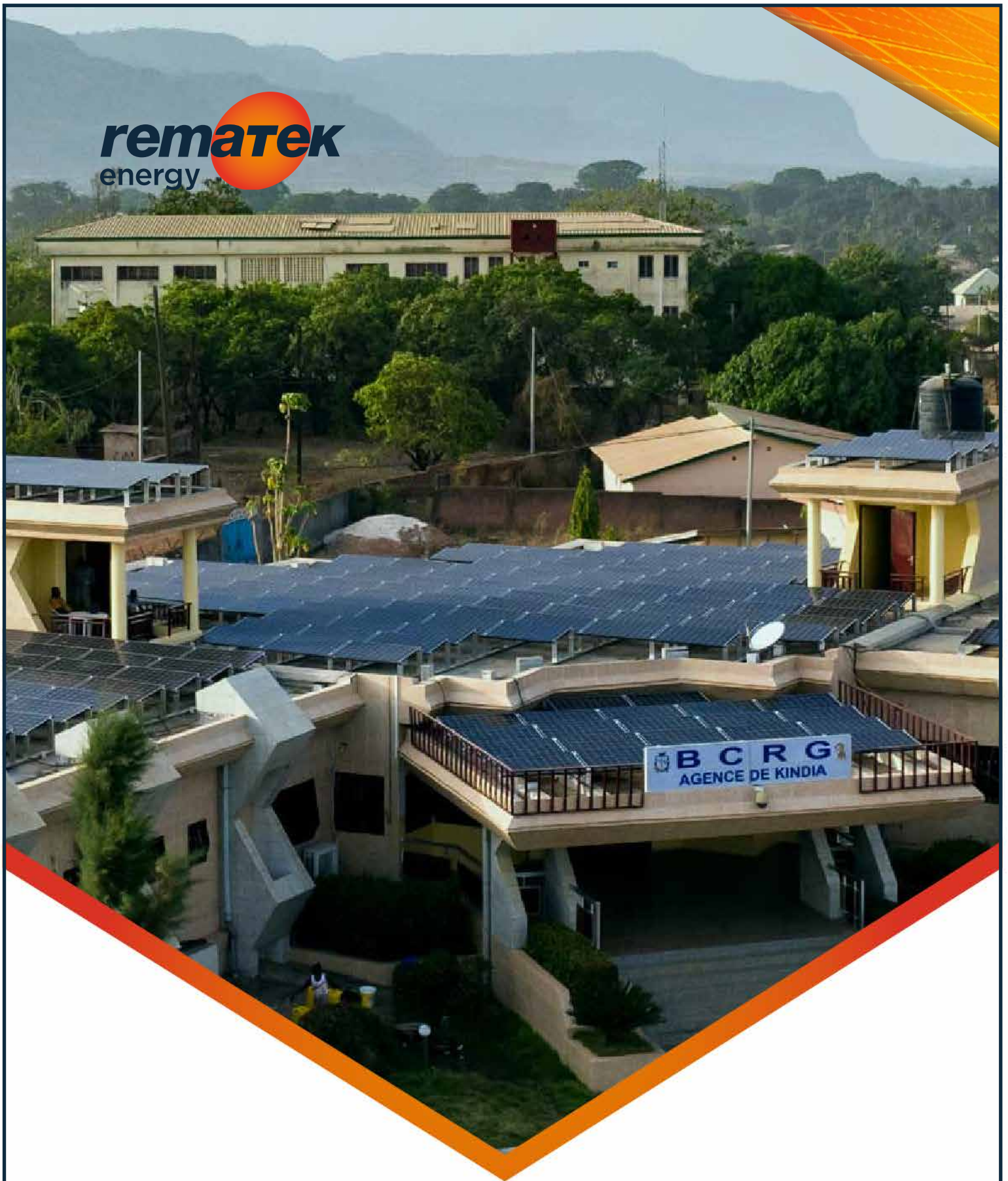
You'll have access to two of our key competitive advantages: our analytical skills and our ability to optimize the energy and economic performance of your project.

We have worked on over 10,000 projects across Canada, Mexico, the Caribbeans and Africa, and we know that every project is unique. That's why you need to be able to rely on our unique expertise.

GRANTS AND INCENTIVES IN RENEWABLE ENERGY

Are you located in Canada?

Get informed: there are several assistance and subsidy programs offered by the various levels of government. By analyzing your project, we can help you in this regard. Talk to our Customer Service!



ACHIEVEMENTS

ON-GRID

HYBRID

OFF-GRID



SODIGAZ 2MW SOLAR FARM WITH ENERGY STORAGE

June 2022 to December 2023

DESCRIPTION

Sodigaz APC of Burkina Faso is the project manager in charge of the energy supply of the Oasis City, a major real estate project carried out by the real estate company LOGIQ SA. To accompany them in this project, they were looking for a qualified and independent international partner to guide them in their efforts to efficiently supply solar energy to this new city of 2,000 homes, 60 businesses and other city-like infrastructures such as a school and a community center.

Our mandate was to design a hybrid solar photovoltaic power plant/energy storage system to power the entire City during the day and improve the resiliency of the grid while the main utility, Sonabel, provides power at night.



To coordinate the design work with local civil and electrical engineering offices. For the civil aspect of the project, we had to consider natural elements specific to the project such as the nature of the ground to identify the type of anchoring required and to specify the necessary bases for the containers of the energy storage system.

For the electrical aspect, we had to integrate three energy sources of different natures and different electrical parameters, the electrical energy provided by the solar photovoltaic field and the storage system being direct current, low voltage, while the energy coming from the electrical network of Sonabel is alternating current of high voltage category A (33 000 Volts).

Rematek Energy's reputation for this type of large-scale project and its ability to offer a complete support service made it possible to become the trusted partner of Sodigaz APC. The 360° support of the client started with a feasibility study followed by a sizing study to optimize the number of solar photovoltaic modules and the capacity of the energy storage system according to an energy consumption model developed in collaboration with the client.

We took charge of writing the specifications and subsequently supported the client in the process of creating numerous tenders in different lots. In 2023, we will participate in the selection exercise leading to the development of the best team of subcontractors that can meet the requirements of this project.

We will also participate in rigorous compliance testing and quality control of the equipment installation as well as conducting tests and inspections and assisting the client in the implementation of a comprehensive energy management system.

The training of the customer and the recommendations for best practices for the operation and maintenance of the equipment will be the final steps which will lead to the full autonomy of the customer thereafter.



GREENBALL A KIMBALL PROJECT

January 2022 to April 2023

DESCRIPTION

Rematek Energy is in the process of completing a commercial grid-tied Solar PV project in Reynosa, Mexico. The electronics manufacturer Kimball challenged five companies to maximize their electricity savings through a solar PV installation. The company wanted to show leadership in its industry and to its employees and customers by demonstrating its commitment to the development of cleaner energy. With a budget of 300,000 USD, we had to come up with the most effective turnkey solution to win the bid.



PARTNERS

Installer : RCI Energies de Mexico SA de CV
Structural Engineering : Badillo Construcciones
Electrical Engineering : RCI Energies de Mexico SA de CV
Mechanical Engineering : Unirac



We prepared three scenarios. The first scenario was to install the maximum number of solar carports. This was the initial approach requested by the client given the great visibility it offers.

The second approach was to consider the installation of bifacial solar panels on the roof of the building. This approach caught our client's attention as it doubled the energy production of the first scenario. Rematek has mastered the technology of bifacial solar panels for several years now, but this represents a new approach in Mexico and our client quickly realized the benefits of taking advantage of a better solar capture.

The third scenario appealed to our client Kimball because it uses the idea of bifacial solar panels on the roof, with a small portion of the budget set aside to add a two-car solar carport near the entrance of the building. Kimball's commitment to the project is evident in the visibility of the use of renewable energy in their building and the energy efficiency of the project.



RESULTS

Our client appreciated our integrated approach which combines engineering, complete supply of materials and management of the installation to provide a full turnkey service. One of the issues identified, given the high winds in the region, was the anchoring of the solar panels to the roof structure. By analyzing historical wind speeds, current laws and structural elements, we optimized the right balance between the number and placement of anchors and ballasts to ensure a strong yet lightweight anchoring solution. As per usual, we had the building's structural engineer evaluate and approve the proposed solution without the need to reinforce the existing building structure. This project was made possible by our local installation and engineering partners for the electrical, mechanical and structural components.

POLYDÔME – VARENNES

January 2021 to December 2021

DESCRIPTION

The Varennes Polydôme: a bright and responsible project.

The city of Varennes inaugurated last winter (in December 2021) its spectacular outdoor skating rink with roof. It is the first covered outdoor ice surface for skating and hockey in the region.

The Polydôme: A solar and mechanical engineering challenge.

Rematek was directly involved in this project so that the lighting system illuminating the rink in the evening would come from 100% renewable energy (60 solar panels producing more than 30,000 kWh per year). Thus, we implemented a solar photovoltaic system that produces energy during the day and stores it in a 57kWh energy storage system sufficient to power the rink's lighting all evening via a state-of-the-art nanogrid.



PARTNERS

Project manager : TBC Construction et Décarel

Installer Partner : Québec Solar

Mechanical Engineering : Opsun Systems



Safety and resistance to weather, snow and extreme winds. The installation of 60 solar panels measuring 2 square meters each - tilted towards the sun on a wooden roof only 2 inches thick - required a very specific analysis of the necessary anchoring. With our partner OPSUN (from Quebec City) we were able to meet the mechanical challenge of securing the panels to the roof. The analysis allowed us to identify the anchoring methods and the number of screws required to optimize resistance to the elements involved. With so much damage caused by increasingly violent storms, it is important to design solar systems that are prepared to withstand extreme winds.

Of course, the need for energy is greater in winter, so it is essential to design a system capable of maximizing energy production during this cold season when we experience a low number of hours of sunlight combined with a significant accumulation of snow. To optimize performance, we used the latest technology in bifacial solar panels. These panels allow the snow to melt quickly thanks to the reflections of the light that bounces off the roof and is absorbed by the back of the panels. Not only does this produce electricity while the panel is covered in snow, but it also warms the panel, allowing the snow to slide off efficiently.

The City of Varennes, a leader in renewable energy projects. We know that the demand for electricity will grow strongly in the coming years. We also know that Hydro Quebec is trying to fill the gaps (expected as early as 2026) between anticipated consumption and its capacity to produce sufficient energy (ref.: Hydro Quebec's 2023-2032 supply plan). It is therefore more and more important to resort, as of today, to different sources of renewable energy in order to offset the increase in future demand.

Remember that this growth in demand is part of the energy transition. We want to replace all fossil fuel sources with a clean energy source such as our electricity (e.g. the transition from gas to electric vehicles). It is through responsible actions such as the implementation of solar systems and the use of wind energy systems that the energy balance will be maintained (ref: Canadian Renewable Energy Association (CanREA) statement).

LEMAY PROJECT – PHÉNIX BUILDING

January 2020 to February 2021

DESCRIPTION

Installation and commissioning of nearly 400 photovoltaic collectors, including 332 bifacial modules, to ensure the production of electricity for the entire office building while contributing to the creation of a zero-carbon building. The panels are also coupled with an energy storage system to serve as an alternate power source in case of a power outage.



PARTNERS

Installer : Prosolaire

Electrical contractor : Les Entreprises d'Électricité EG

Mechanical engineering : Opsun

Electrical Engineering : Martin Roy et associés



The project leaders had the ambition to install panels on the front of the building to communicate to the general public the avant-garde spirit of the international architecture firm. The installation of these panels had to be both aesthetic and functional.

Finally, the client also wanted to have an energy storage system to smooth out peaks and maintain a constant demand and to power the offices in case of a power outage. This last aspect required a linkage with the building management system as well as a close collaboration with Hydro-Québec. Numerous tests were carried out to ensure the instantaneous redirection of power from the main system to the secondary system in the event of a power outage.



RESULT

This project helped to convert a warehouse into a building that received the « Zero Carbon Performance Building » and Fitwel 3-star rating. It is also pending Leed-NC Platinum certification and listed in the « Living Building Challenge ». In terms of efficiency, the use of bifacial panels can now generate 15% to 25% more energy for a given area. With a 137 kWh battery and a peak load capacity of 66 kW, the system in place can generate 180 MWh annually.



LOCAL 144 – HEAD OFFICE

September 2018 to October 2019

DESCRIPTION

Installation and commissioning of 442 bi-facial solar panels on the roof of Local 144's new headquarters building as part of a large-scale project to create clean energy on an energy-efficient building.

PARTNERS

Installer : Gastier M.P. Inc.
Electrical contractor : Gastier M.P. Inc.
Mechanical engineering : Opsun Systems Inc.
Electrical engineering : Martin Roy et associés
Structural engineering : NCK Inc.



The largest rooftop solar panel installation in Montreal, this ambitious project in the east end aimed to achieve LEED Platinum certification, one of the first facilities to attempt this feat on the new v4 platform. Local 144, the largest association of workers in the piping and plumbing industry in Quebec, set out to produce as much solar energy as possible in its new headquarters while meeting the multiple criteria of the coveted certification.

After analyzing the customer's needs and expectations as well as the technical constraints, Rematek Energy proposed a less expensive solution that would offer a better economic performance, i.e. the most efficient installation while generating the maximum LEED points. Bifacial panels from LG, equipped with the best technology in the world at the time, were selected for this project.

One of the biggest challenges associated with this new construction was coordinating the efforts of the various parties involved – mechanical, electrical, and especially structural engineers- whose advice and specifications had to be followed to the letter to ensure the integrity of the building. A camera was installed on the roof to ensure visual monitoring of the site and to allow the client's training center to view the installation on the roof.



RESULT

The 442 panels together generate 172 kW of electricity and provide 240,000 kWh of clean solar energy annually. Local 144's headquarters is awaiting its LEED Platinum certification.



QUEBEC CITY – SIMONS

August 2017 to May 2018

DESCRIPTION

Commissioning of a 1200 kW photovoltaic park to supply the Simons store in the Galeries de la Capitale shopping center in Quebec City. One third of the panels are installed on carports specially designed for this project.



PARTNER

Installer : Claude Miville Inc.



This project was the first ever large-scale installation of bifacial technology in Quebec, a relatively new solution in the industry, for which there was not yet a performance comparison basis.

The challenge was mainly to develop a support system for the roof as well as for the carports that would minimize the losses caused by shading on the back side of the modules. In addition, the installation had to take place during other major renovation work in the middle of winter.



RESULT

The photovoltaic park has been successfully installed and operating as planned.

UNIVERSITY OF SHERBROOKE

January 2018 to February 2019

DESCRIPTION

Commissioning of a 660 kW photovoltaic system, including 330 kW in the field with 2-axis tracking.



PARTNER

Installer : Victor Poulin Inc.



RESULT

The photovoltaic park has been successfully commissioned and the University of Sherbrooke can now use it for its research activities.



This project had very specific constraints, given the type of high-performance modules chosen by the university. It is quite common in the industry for module technologies to exceed those of the other components of the system.

The challenge was to identify and find a series optimizer that could support the 390W bifacial modules from LG. In addition, the project had to be completed without interrupting the university's operations.

MODULES OF
390_W

CENTRAL BANK OF GUINÉE (KINDIA)

April 2018 to April 2019

DESCRIPTION

Design and management of a rooftop photovoltaic system -120 kW
Design and management of a 120 kWh energy storage system (lithium batteries)

Training and supervision of the local workforce.

PARTNER

Local workforce trained and supervised by
Reynald Dion Consulting & Services Company



This project aimed to reduce the Central Bank's dependence on the national electric utility (EDG), whose voltage is unstable and subject to almost daily power outages. It not only avoids the use of generators (powered by diesel), but also minimizes the use of the EDG network whose rates are very high.

Rematek Energy had to design a very sophisticated control system to handle the decisions regarding the use of four energy sources in the following order of priority: solar, battery, EDG, generators.

In addition, the installation and commissioning had to take place without disrupting the central bank's operations which are vital to the country's economy.



RESULT

The Central Bank can now count on a supply of electricity that is not only reliable but also stable, and which hardly ever calls on the national grid. Local workers have also acquired a crucial skill in the country's energy context.

ENERGY
STORAGE SYSTEM
120 kWh



NETZÉRO LIBRARY VARENNES

August 2013 to November 2014

DESCRIPTION

Installation of a 110.5 kW photovoltaic system to supply electricity to the new Varennes Library building



PARTNER

Installer : Bordeau Électrique Inc.



RESULT



To achieve its goal of energy autonomy, in addition to installing photovoltaic panels to produce electricity, the Varennes library also wanted to recover the heat between the panels and the roof in the winter to preheat its new building.

Rematek Energy has met this challenge with a support system that ensures good heat circulation under the roof and by developing a method to seal the space between the panels, thus avoiding any heat loss.

The project was completed on budget, despite a significant delay caused by the need to expand the roof of the building to accommodate a photovoltaic system of sufficient size to allow the library to achieve its «Net-Zero» goal.

SAINT-ISIDORE MUNICIPAL ARENA

October 2010 to August 2011

DESCRIPTION

Installation of a 120 kW power generation system.

PARTNER

Installer: Reynald Dion Consulting & Services Inc. (RDCS)



The St-Isidore Arena posed a series of significant challenges. The roof surface had steep slopes and there were no structural drawings available to determine its bearing capacity. The building's electrical power cable did not have the capacity to handle the additional power. Inside the building, the arena's electrical system room did not meet the latest building code.

To address this series of challenges, Rematek Energy conducted a thorough structural assessment of the building. This confirmed that the roof and beam dimensions could support the additional loads imposed by the panels and identified a hidden problem of deterioration of several old (wooden) beams which would eventually have caused serious problems even without the PV installation. The Council was very appreciative of this discovery and proceeded to replace the affected beams.

We also developed a PV support system to optimize the tilt of the panels and began a process that required the intervention of the Municipality to authorize the replacement of the power line and capacity increase by Hydro Ottawa. As for the electrical room, we made significant changes to ensure that it is in compliance with the code.



RESULT

The project was completed on time and on budget.



SEPAQ

2018

DESCRIPTION

Supply of solar panels, batteries and other electrical components for 300 SEPAQ cottages.



RESULT



The delivery of more than 10,000 pieces required to equip these 300 cottages, located throughout the most isolated and difficult to access regions of Quebec, represented a considerable logistical challenge.

Rematek Energy has put in place a rigorous system to ensure not only the timely delivery of materials, but also a reliable (and cost effective) supply of equipment.

The systems installed to date allow SEPAQ to improve the comfort of its rental accommodations and to free itself as much as possible from the production of electricity by means of generators powered by diesel, propane or other.

HYDRO-QUÉBEC **NORTHERN QUEBEC**

from Spring 2017 on...

DESCRIPTION

Development and manufacturing of electricity production and storage systems for multiple telecommunication sites in Northern Quebec.



Hydro-Quebec was looking for a reliable and continuous source of energy for several of its telecommunication sites in Northern Quebec. Rematek Energy responded to this request by designing a cabinet containing all the components required to manage and store the electricity produced by photovoltaic panels. It allows to record data on the state of the systems (voltage, current, received power, consumption) and weather conditions throughout its useful life. We have also designed a software for the analysis and interpretation of the data to control the variables of the system, to analyze its performance and to sound the alarm in case of failure.

This complex system consists of 18 monocrystalline modules of 345 W, galvanized steel supports, 3 charge controllers and 6 lithium-ion batteries with a capacity of 23.4 kWh, 2 inverters of 375 and 1200 VA, 2 converters 48 Vdc/12Vdc of 500 and 100 W, 1 data acquisition system, 1 240 Vac/48 Vdc charger of 4 kW, 3 temperature sensors and 2 pyranometers have been incorporated in a self-contained cabinet designed to withstand temperatures of -30°C.

**RESULT**

The units commissioned to date have validated the system's proper operation and major savings on the use and maintenance of diesel generators. The project also won the Energia award from the Quebec Association for Energy management in the «Technological Innovation» category.



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