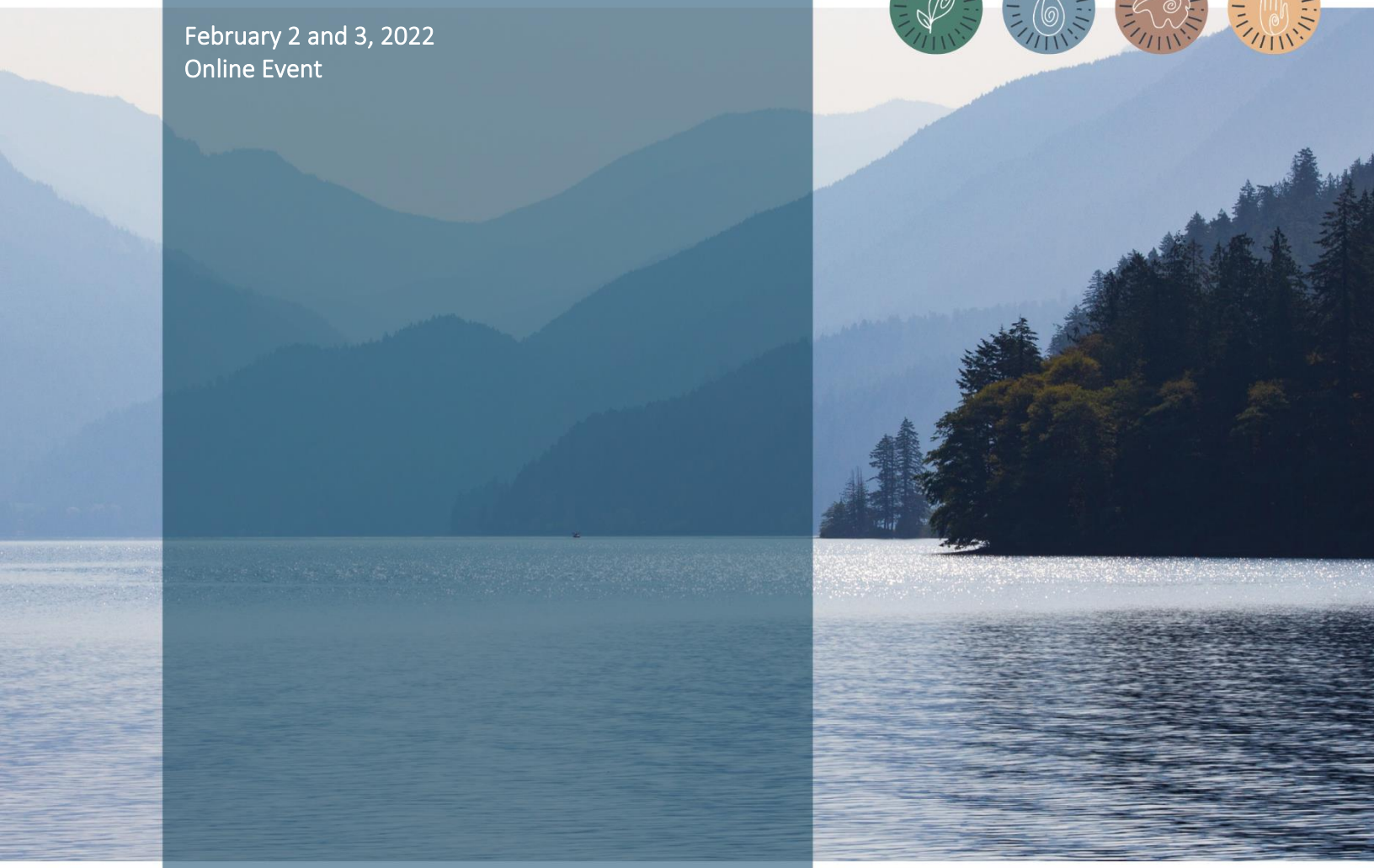
REPORT

Renewable Energy Regional Workshop 2022

February 2 and 3, 2022
Online Event



FNQLSDI
First Nations of Quebec and Labrador Sustainable Development Institute

Contents

List of acronyms

CC	Climate change
CERRC	Clean Energy for Rural and Remote Communities funding program from Natural Resources Canada
CIB	Canada Infrastructure Bank
ECCFC	Electrification and Climate Change Funds
EITS	The MENR's energy innovation and transition sector
FNQLEDC	First Nations of Quebec and Labrador Economic Development Commission
FNQLSDI	First Nations of Quebec and Labrador Sustainable Development Institute
GHG	Greenhouse gases
HQ	Hydro-Quebec
ICE	Indigenous Clean Energy
ICII	CIB Indigenous Community Infrastructure Initiative funding program
MEFCC	Ministry of the Environment and the Fight against Climate Change
MENR	Ministry of Energy and Natural Resources
NRCan	Natural Resources Canada
ORPC	Ocean Renewable Power Company
PGE	Plan for a green economy
RERW22	Renewable Energy Regional Workshop 2022
SCADA	Supervisory control and data acquisition
SREP	Smart Renewables and Electrification Pathways funding program from Natural Resources Canada

Introduction

The FNQLSDI Climate Change and Energy team is pleased to present the report of the Renewable Energy Regional Workshop 2022 (RERW22) held online on February 2 and 3, 2022. The event attracted the registration of 96 people via the Eventbrite platform for a real participation of 68 people during the two days of the event. Approximately 25 different First Nations and 9 Tribal Councils were represented.

Held over two days, the workshop aimed to inform participants about renewable energy technologies and allow networking to facilitate the creation of projects in the field. It included lectures and discussion sessions on the following themes: successes and initiatives in communities, building positive partnerships between communities and external actors, energy financing, awareness raising and community mobilization, as well as information sessions on the energy transition planned by the Government of Québec and Hydro Québec.

This report presents the key information emerging from the various presentations and the questions or comments made by the participants. The responses, unless otherwise stated, are those of the speakers. The workshop agenda can be found in Appendix 1 of the report, while presentations and important links shared at the event can be found online on the FNQLSDI website.

You have access to the slides of the workshop, as well as the resources shared during the event on the FNQLSDI website:

https://fnqlsdi.ca/energy-and-energy-efficiency/rerw22/

Day 1 – February 2, 2022

Welcome

Luc Lainé – Facilitator, Huron-Wendat.
Rolland Tsei8ei – Huron-Wendat elder.

The RERW22 began with the welcome of the participants by Luc Lainé, facilitator of the event. Then elder Rolland Tsei8ei of the Huron-Wendat Nation offered a welcoming prayer to allow all participants to share a sacred and privileged moment.

The FNQLSDI and its renewable energy projects

Andréanne Ferland – *Climate Change and Energy Coordinator, FNQLSDI.*
Niklas Rusche – *Renewable Energy Project Manager and Main Workshop Organizer, FNQLSDI*.

Presentation Highlights

Andréanne Ferland briefly presented the FNQLSDI and the Climate Change and Energy sector. Founded in 2020, the sector is made up of 4 people and organized into two areas of intervention:

> Mitigation: work to limit the cause of climate change, including greenhouse gas (GHG) emissions.
> Adaptation: monitor the effects of climate change, and work to limit negative impacts or take advantage of positive impacts.

Some projects, such as forest restoration, have positive effects on both axes.

Niklas Rusche then introduced the Renewable Energy Circuit Rider Project funded by Natural Resources Canada's (NRCan) Clean Energy for Rural and Remote Communities (CERRC) program. The project is divided into four main components: training, awareness,technical support and the creation of a toolbox. The project has supported several activities over the past 3 years and will continue until 2023, here are some examples:

> Editorial support for the application for funding for the microgrid project at Relais de la Cache, and dissemination of the project on a regional scale;
> Technical support for the purchase and installation of a photovoltaic system at the Matakan cultural site in Manawan and a sugar bush in Gespeg;
> Support for the design and coordination of a feasibility study for the oil-biomass conversion of residential and institutional heating in Opitciwan;
> Design and broadcast of a webinar on small solar systems for off-grid cottages or camps (available online);

> Organization of an initial workshop on renewable energies that brought together 46 participants in Gespeg on July 9, 10 and 11, 2019.

The RERW22 is a continuation of the workshop carried out in 2019 and is also supported by this project. The workshop focuses on the generation of renewable electricity and mature technologies to support the development of renewable energy projects *today*.

Questions and comments

> *Will renewable energy training be offered in communities?*

No training is currently planned, but it can be organized when there is sufficient demand.

Renewable energy and microgrids

Pierre Beaudoin – Project Manager*, Nergica*.
Valérie Bouchard – *Analyst,* research and *innovation, Nergica.*
Asma Dhakouani – Auxiliary, research and innovation, Nergica.

Presentation Highlights

> The majority of electricity generation in Canada (60%) is hydroelectric.
> Electricity production in Quebec is 99% renewable energy, especially hydro.
> The forms of renewable energy are mainly solar, wind, biomass, hydropower and geothermal. Nuclear energy is a form of fossil energy, so it is not renewable, but it is low in GHG emissions.
> The components of a microgrid are:
  - Local energy production (often multiple sources);
  - A storage system like batteries;
  - An intelligent management system.
> There are two types of microgrids:
  - The isolated microgrid that is off the main electricity grid
  - The connected microgrid, which is connected to the main grid, but can act as a stand-alone network in the event of a power loss.
> The advantages of microgrids are resistance and autonomy.
> Storage is important to balance production and demand. There are several types of storage, including batteries and possibly green hydrogen.

Questions and comments

> *What is the relevance of developing renewable energy projects in places already connected to the Hydro-Québec (HQ) grid? Since HQ's electricity is already renewable, this can give the impression of duplication.*

Nergica: If you are close to a HQ power line, it is cheaper to connect to the lines, and there is no reason to duplicate today. However, in the future where transportation and the heating of houses will be electrified, the production of HQ will not be enough to cover the demand, probably from 2026.
Participant: Renewable energy projects can be seen more as a complement.
FNQLSDI: Intermittent renewable energy production such as wind and solar combines well with hydroelectric dams to balance production. A surplus can still be sold outside the province and replace the use of fossil fuels.

> *For communities connected to HQ's main grid, how could renewable energy, such as photovoltaic solar, be integrated?*
HQ offers a billing option called net metering, where the energy produced by the solar panels is injected into the grid if it is not used right away on site. This energy helps to lower the bill. On the other hand, photovoltaic installations are not yet economically competitive with HQ tariffs.

> *Where should we start if we want to explore the possibilities of green hydrogen as a storage solution for resilience in remote and grid-connected communities?*
The storage of green hydrogen is not yet widespread. The Nergica Institute could help analyze this.

> In one community, HQ's streetlight maintenance is deficient. In order to solve this problem, the community is working to develop off-grid options.

> One participant also mentioned that off-grid Indigenous communities are in a strong position to propose energy projects to HQ. What is lacking in our communities is mobilization, education, awareness-raising and recognition of the strength they have. The FNQLSDI could play a role in this regard.

Relais de la Cache Microgrid

Bonnie Jerome – Administrative Assistance for Economic Development, Gesgapegiag.
Mauricio Higuita-Cano – *Project Manager Relais de la Cache, Nergica*.

Presentation Highlights

> The Relais de la Cache is a snowmobile hot spot during the winter.
> The Relais de la Cache is an autonomous microgrid, which aims to reduce its dependence on diesel, from 10,000 to 15,000 L per year.
> The objective of the installation is to create a demonstration system that manages electricity and heat and is monitored by an electronic data acquisition and control (SCADA) system.
> The orientation of the solar panels is optimized for the winter, when efficiency is at its lowest.
> Starting such a project is intimidating, but once the right relationship with the project team and stakeholders is established, anything becomes possible. The atmosphere of trust between all the project partners is important.
> The project is a partnership of different institutions. The lead partner is NRCan, which contributed $1.5M through its Clean Energy for Rural and Remote Communities (CERRC) program.
> The pandemic and its repercussions were particularly challenging during the installation of the system.
> The implementation of the system has made it possible to train several members of the community in carpentry and the installation of photovoltaic systems.
> The next phase of the project is a learning phase for the operation and maintenance of the system and will take place over three years.

Questions and commentaries

> A Member of Listuguj congratulates Bonnie on the project. In Listuguj, there are plans to build a Turtle Lodge that will use renewable energy technologies.

> Several participants are interested in the economic aspect and return on investment of a photovoltaic energy project.

Socio-economic aspects of solar energy

Asma Dhakouani – *Research and Innovation Assistant, Nergica.*

Presentation Highlights

> There has been a sharp decline in photovoltaic solar costs over the past decade, and the trend is likely to continue until 2050.
> Multiple advantages of solar energy:
    - Easy to integrate with other projects;
    - Development of renewable energy skills;
    - Can create local employment;
    - May reduce distribution lines through local power generation;
    - May increase energy independence;
    - Can improve public perception, for example in a tourism context.
> Recommendations:
    - Know the limits of renewable energies;
    - Have an action plan to train professionals locally.

Breakout group sessions with off-grid energy experts

Participants were able to choose their breakout group for discussions, based on the expertise of the guest presenters and their language preference (Fr/En). Between 5 and 15 participants were present in each of the virtual rooms. Participants greatly appreciated the opportunity to ask both specific and technical questions and being able to network with people in the energy community.

Group A (Fr) – Off-grid solar energy – design and education

Éric Vandal – *Renewable Energy Project Manager, Centre TERRE of the CÉGEP de Jonquière*.

Highlights of the discussion

> Centre TERRE is a research chair and an attestation of collegial studies program in Renewable energy technologies and energy performance at the CÉGEP de Jonquière.
> The *CÉGEP* de Jonquière also offers continuing education on the design and installation of photovoltaic systems in isolated environments, as well as on the evaluation and optimization of systems. The trainings do not require any basic knowledge and are carried out over a period of about 20 hours.
> The steps for converting a cottage to renewable energy are:
    - Assess needs;
    - Measure power consumption;

- Identify energy efficiency measures to be implemented to reduce consumption;
- Analyze solutions;
- Evaluate the costs and return on investment of solutions.

> In solar chalets, the heating (water and air) should not be electric. Wood heating is a good option in this case.

> There are several types of batteries that each have their advantages:
  - Lead-acid batteries are the least expensive to buy.
  - AGM (absorbent glass mat) batteries are a little more expensive, but require less maintenance.
  - Lithium-ion batteries are more expensive, but more efficient. There are self-heating models for the winter.

Group B (Fr) – Renewable Energy in Quebec: An Overview and Networking

Patrick Goulet – *President, Énergie Solaire Québec.*

Highlights of the discussion

> Self-sufficiency is possible thanks to renewable energies. For example, the Scottish community of Orkney produces 128% of its energy needs, in addition to generating 300 jobs. The community of Mary's Harbor in Labrador, near the Quebec border, has installed a hybrid solar-generator system that works very efficiently, even in the event of an outage.

> A team of trained people is needed to solve all the technical problems that may arise in a self-contained solar energy grid. It is therefore important to invest in job creation and workforce training in remote areas.

> The current supply of photovoltaic cells comes mainly from China. However, some panels are assembled in Canada.

> The lifespan of a wind turbine is 25 years and more. A solar panel can run for 50 years, but electronic components have a lifespan of around 15 years.

> The efficiency of affordable solar panels is 20% (of the solar energy on the panel). The more expensive ones have a 25% return. Bifacial panels can transform light on both sides, so they can use light reflected from the ground. Under ideal conditions they have a maximum efficiency of 30% and are especially advantageous in winter due to the albedo effect of snow.

Group C (Fr) – The solar sugar shack

Justin Drody – *Director of Forestry, Gespeg.*
Sébastien Caron – President, *Volts Énergies*.

Highlights of the discussion

> The Gespeg sugar bush – a 7,000-tap sugar bush – works with a hybrid solar system that consists of photovoltaic panels, batteries and a generator. Over the course of a year, the sugar bush is powered mainly by the solar system. The generator is switched on only during the sugar bush period for the osmosis system. The evaporators in the sugar bush are heated with wood, a carbon-neutral heat source.

> The correct sizing of a system during planning is very important, including changes and expansions planned in the future. In a well-sized hybrid solar system, the generator would be turned on for 300 hours per year (one year = 8,760 hours), mainly in winter.

> A remote monitoring and diagnostic system can avoid the costly travel of a technician on site, but requires an internet connection.

> Batteries from damaged electric vehicles can be recovered as storage in off-grid systems, and can then be used for another 10 to 15 years.

> Batteries should be heated in the winter, because they temporarily lose 50% of their capacity (acid lead), or do not operate at all below 0°C (lithium). Lithium batteries do not require ventilation like lead-acid batteries.

> To prevent snow accumulation, solar panels should be mounted on a pole, not directly on the roof. It is also advantageous to be able to adjust the angle of the panels. A higher angle (60° and above) will improve snow clearance and yield in winter, a lower angle maximizes yield in summer.

> With fuel prices on the rise, the return on investment for off-grid systems is about 5 years, and in even less time with subsidies.

Group D – A solar cottage in the woods

Martin Lambert – *Chairman and CEO, Ecosolaris*.

Highlights of the discussion

> Solar systems must be adapted to the situation, as the conditions are always different.

> If space is limited, and the land is wooded, pole-mounted solar trackers can be cost-effective.

> Under certain conditions, snow can freeze on the panels and be difficult to remove. In this case, it must be removed manually before it freezes.

> Support structures for solar installations are often made of aluminum, but wooden supports can be a more environmentally friendly option.

> Small wind turbines are very expensive, as they require a high tower to function properly as well as regular maintenance.

Group E – Small off-grid hydro-electric projects: ORPC

Tagwongo Obamsawin – Market Development Manager, *Ocean Renewable Power Company (ORPC).*
Fabienne Joly – Director of Development, *ORPC.*

Highlights of the discussion

> RivGen® is a submersible hydroturbine that can be installed and used in fast-flowing rivers of a certain depth and width. The hydroturbine is relatively small and does not interfere with wildlife.
> The Igiugig off-grid community in Alaska has been successfully operating a RivGen® turbine for several years.
> The potential of Nunavik's rivers was assessed using publicly available data. Additional field tests are needed to find potential installation sites.

Funding Opportunities

Natural Resources Canada (NRCan)

Hannah Bihun – *Policy Analyst, Electric and Renewable Energy Division, NRCan. Isaac Gielen – Policy Analyst, Aboriginal Forestry and Biothermal Division, Canadian Forest Service.*

Presentation Highlights

> The Clean Energy for Rural and Remote Communities (CERRC) program aims to promote a transition to a cleaner, more sustainable energy future by supporting projects that reduce reliance on diesel fuel in rural and remote communities. The program amounts to $220 million over 8 years (2018-2026), and is divided into four phases: deployment, demonstration, biothermal and capacity building.
> The Smart Renewables and Electrification Pathways (SREP) program aims to increase emission-free electricity generation, accelerate the modernization of Canada's grids, and promote equity, diversity and inclusion in the electric and renewable energy sectors. The program amounts to $964 million over 4 years, starting in 2021.

Canada Infrastructure Bank(CIB)

Stephanie Aldersley – P.Eng. Senior Director of Investments, *CIB.*

Presentation Highlights

> The CIB is an impact investor deploying $35 billion to develop the next generation of infrastructure. Their priority sectors are: green infrastructure, clean energy, public transit, commerce and high-speed internet.
> The Indigenous Community Infrastructure Initiative (ICII) is one way to further address the community infrastructure gap by providing low-cost, long-term loans to Indigenous communities to fund projects in CIB priority areas. The IICA targets loan applications from $5 million to $100 million. Completed projects must generate revenue, but they may also have other sources of income to repay the loan.
> To apply for a grant from the CIB, a business plan and feasibility study are required. The process is complex, but the CIB can help with the process.

Day 2 – February 3, 2022

Energy Innovation and Transition Sector (EITS) of the Ministry of Energy and Natural Resources (MENR)

Annie Guertin – Director of Master Plan and Customer Experience, EITS, MENR.
Bernard Lamonde – Acting Managing Director of Operations and Innovation, EITS, MENR.

Presentation Highlights

> The EITS is a sector of the MENR whose mission is to support, stimulate and promote energy transition, innovation and efficiency; and ensure the sustainable and responsible use of energy resources.
> The funds for the energy transition derive mainly from the carbon market. The revenues are found in the Electrification and Climate Change Fund (ECCF), which finances the Plan for a Green Economy (PGE) of the Ministry of the Environment and the Fight against Climate Change (MEFCC). The measures of the Master Plan in Energy Transition, Innovation and Efficiency are mainly financed by the PGE.
> The MENR deploys several financing programs to support the energy transition of various sectors, including residential, business, transportation and innovation. All the programs are detailed in the presentation slides.

Questions and comments

> *Can programs be combined to fund a project?*
MENR programs cannot be combined for the same measures, but they can be combined with programs from other external parties. If the programs target different measures of the same project, they can be combined, for example for charging stations and energy efficiency of the same building.

> *Will the programs be adjusted to reflect HQ's new dual-energy program?*
Yes, funding for dual-energy measures is provided. Dual energy in this context means: electric heating, combined with a possibility of heating with natural gas during peak consumption, to reduce the load on the electricity grid.

> *Do the housing efficiency programs also apply to buildings that are owned by councils and rented?*
Yes.

> A wood dryer in Manawan now uses an electrical system instead of a natural gas system, thanks to MENR funding programs.

> Financial support also applies to renewable energy projects for outfitters.

Hydro-Québec and the energy transition

Marc-Antoine Pouliot – Director of Communications, HQ.
Mathieu Boucher – Director of Indigenous Relations, HQ.
Frédérik Aucoin – Head of Market Development and Energy Expertise, HQ.

Presentation Highlights

> New power supplies will be required from winter 2026-2027 and from 2027 onwards. Note that power is the energy demand at a specific time, calculated in watts. Energy is the power multiplied by the duration, measured in watt-hours.
> To meet the growing demand for energy, tenders have been launched at the end of 2021, and more will follow. Future calls will likely be for wind farms.
> The states of Massachusetts and New York have signed supply contracts with HQ to equalize their production of intermittent renewable energy, majorly solar and wind. By exporting electricity during periods without wind or sun, Quebec will act as a battery for neighboring markets.
> HQ's power grid will become increasingly intelligent to better manage winter peaks as well as bidirectional energy exchanges. Note that a *smart grid* uses digital technologies to monitor, control and balance energy exchanges between producers and consumers. This makes it

possible to optimise the grid, improve efficiency and facilitate the integration of renewable energies, for example solar panels on individual houses.

> Investments in current infrastructure are also necessary to optimize their operation and ensure their sustainability, reliability and compliance.

> HQ is looking to improve its collaboration with First Nations and go beyond traditional agreements. HQ is committed to increasing the number of Indigenous employees.

> Energy efficiency has a positive impact on HQ, but also on customers and society. HQ therefore offers several energy efficiency financing programs for the business and residential sectors. All the programs are detailed in the presentation slides.

> The three stages of energy efficiency are:
  - **Reduce** unnecessary consumption
  - **Recover** energy or, if possible, use thermal waste
  - **Replace** equipment for more efficient models.

> HQ also offers incentives for state-of-the-art management for all categories of clients.

Questions and comments

> *Why does HQ export electricity to New York and Massachusetts if there is not enough generation capacity in the future?*
Contracts abroad are a win for Quebec, even if it means increasing production capacity.

> *Is Quebec missing the "hydrogen boat"?*
The use of hydrogen has advantages in terms of long-term storage, but at its core, the use of direct electricity is much more efficient than going through green hydrogen.

> *Is it possible to have the subsidies retroactively, if the measures have already been put in place?*
Yes, this is possible for standard requests only.

> *Participants mentioned that the quality of the network (frequency and duration of outages) in remote communities is an issue.*
HQ is considering using connected microgrid technology to improve quality of service, but no projects using this technology are planned in communities at this time.

First Nations Leadership in Renewable Energy: On-Grid Projects

The Apuiat wind farm

Marc Genest – Director of Economic Development, Essipit.

Presentation Highlights

> The Apuiat Wind Farm is a major project that unites 9 Innu communities, proving that collaboration is possible and is a necessity to carry out projects on this scale. The key figures of the project are:
  - Capacity: 200 MW
  - HQ Purchase Price: $0.06 per kWh
  - Duration of the contract: 30 years
  - Investment: $600 million
  - 50/50 partners between the Innu Nation and Boralex
  - 300 jobs during construction (2.5 years)
  - 10 long-term jobs (maintenance of wind turbines and the road network).
> Wind energy is considered a mature technology, which makes it easier to find investors.
> One of the challenges is to find funding at this scale; First Nations communities are still at a disadvantage when compared to non-native communities.

Mashteuiatsh's energy sector

Serge Simard – Director of the Economic Sector and Strategic Partnerships, Pekuakamiulnuatsh Takuhikan.

Presentation Highlights

> In 1990, the band council identified hydroelectricity as a source of income for the community. Today, the community operates or participates in the following projects:
  - Minashtuk Power Plant (9.9 MW);
  - Val-Jalbert power plant (17.9 MW);
  - 11th Fall Power Plant (18.3 MW);
  - Thibaudeau-Ricard hydroelectric power plant (4.9 MW);
  - Rivière du Moulin wind farm (350 MW).
> The economic benefits are paid 100% into the autonomous funds of the community.
> The projects created 12 full-time jobs, 60% of which are held by people in the community, contributing to the development of community expertise.

Mesgi'g Ugju's'n Mi'gmaq Wind Farm

Fred Vicaire – CEO, Mi'gmawei Mawiomi Business Corporation.
Kirt Dedam – Project Manager, Mesgi'g Ugju's'n Energies Inc.

Presentation Highlights

> The project was initiated by the three Mi'gmaq communities in 2009, supported by the Mi'gmawei Mawiomi Business Corporation. In 2012, Innergex joined as an experienced partner. Finally, it was in 2016 that the wind farm was commissioned, with 47 wind turbines and nearly 150 MW.
> An agreement has been signed with Hydro-Québec over 20 years for the purchase of electricity produced by the wind turbines in the park. Revenues make it possible to set up:
    - Meetings with chiefs and councils and reporting;
    - Job creation for members of Mi'gmaq communities;
    - Education, communication and community relations, including guided tours of the wind farm, to which participants in this workshop are welcome.
> The partnership between commercial organizations and participating communities requires several levels of legal structures.
> Technician training is being planned and offered to train young people in communities to work with wind turbines, and to increase the number of Indigenous employees on the wind farm in the future.

Questions and comments

> *What form did community mobilization take during the development of these projects?*
All: The involvement of citizens is very important, there have been several public meetings as well as an environmental impact study. We must be as transparent as possible.

> *What were the biggest challenges in these projects?*
Apuiat: A great deal of political will is needed, between partners, but also in negotiations with HQ and the Government of Quebec.
Mashteuiatsh: The acceptability of the projects and their impact on the territory worried many people, it was necessary to communicate well and find a consensus.
Mesgi'g Ugju's'n: Funding for projects at this scale is not easy, but the process has become easier lately, thanks in part to organizations like the First Nations Finance Authority.

> *How can I find a job in the Apuiat project?*
An Economic Maximization Committee has been established, and is responsible for disseminating labour needs and tenders to suppliers. For individual applications, you should contact people in your community who work in training and employment or economic development.

> *At the initiation of the Apuiat project, was it the Innu Nation that approached Borealex or vice versa?*
The project was initiated by the leaders of the 9 communities, with the intention of creating a joint project. After this, Borealex proposed the project, based on HQ's call for tenders.

> To schedule a visit to Mesgi'g Ugju's'n Wind Farm, please contact Kirt Dedam. Groups of 10 to 12 people are ideal.

> For the smooth running of a project, it is important to sign the necessary agreements between the parties, and establish a legal structure before the start of the project.

> The Atikamekw community of Wemotaci operates a hydroelectric generating station on the Saint-Maurice River.

Business and Entrepreneurship Support: The FNQLEDC

Steve Laveau – Economic Development Advisor, First Nations of Quebec and Labrador Economic Development Commission (FNQLEDC).

Presentation Highlights

> The FNQLEDC's mission is to advise, accompany and support First Nations in their socio-economic objectives.
> The specific mandates of the organization are:
    - Dissemination of information (by Facebook and newsletters);
    - Training and development of tools (for economic development officers in communities, but also for entrepreneurs);
    - Member support;
    - Representation;
    - Research and development.
> FNQLEDC services are free of charge.
> The FNQLEDC website includes contact information of economic development workers in the communities, and a directory of Indigenous businesses.

Renewable energy capacity: Indigenous Clean Energy

Terri Lynn Morrison – Executive Assistant Director, Indigenous Clean Energy (ICE).

Presentation Highlights

> Indigenous Clean Energy (ICE) is a non-profit organization that works for First Nations, Inuit and Métis peoples in Canada.
> It is important to remember that First Nations in Canada are leaders in renewable energy.
> ICE provides training, networking and mentorship for communities to build knowledge and capacity to deliver clean energy projects.
    - The trainings offered cover community mobilization, organization and planning, and renewable energy technologies.
    - 20/20 Catalysts is an intensive program that includes training and mentorship, and facilitates the ongoing exchange of experience on renewable energy projects.
    - Generation Power is a clean energy vocational training program for youth between the ages of 18 and 30.
> ICE also carries out work at the political level. These efforts are aimed at creating better jobs and more people, as well as returning more income to communities and protecting the environment.
> In addition to clean energy, ICE's activities also cover projects in energy efficiency, electrification of transport and transmission and energy storage.

Questions and comments

> *Are the programs offered in French?*
Programs are only offered in English at this time, but Terri Lynn speaks French and is the contact person for French speakers.

> *What is a community energy plan, and how can it be implemented if the community is connected to the grid?*
The Community Energy Plan is a plan that assesses energy needs, and energy production potential according to the situation of the community with the aim of creating an energy vision. On the platform http://icenet.work one can find good resources to start this process.

Closing words

Luc Lainé – Facilitator, Huron-Wendat.
Andréanne Ferland – *Climate Change and Energy Coordinator, FNQLSDI.*
Rolland Tsei8ei – Huron-Wendat elder.

The moderator Luc Lainé warmly thanked the participants for their presence and active participation, as well as the simultaneous translators present throughout the event. Then Andréanne Ferland took the floor to thank in turn the participants, the organizer Niklas Rusche, the facilitator Luc Lainé and the huron-wendat elder, Rolland Tsei8ei.

Participants then took the floor to thank everyone for the organization of the event, the conferences related to Indigenous renewable energy projects, and especially the breakout group sessions of Day 1, which allowed participants to network.

The RERW22 closed with a prayer from the Huron-Wendat elder Rolland Tsei8ei.

Appendix 1 – Agenda

Day 1 – Wednesday, February 2, 2022

8:45 – 9:00 am	Log-in
9:00 – 9:15	**Opening and welcome** Luc Lainé – *Facilitator* Elder Rolland Tsei8ei
9:15 – 10:15	**The FNQLSDI and its renewable energy projects,** Andréanne Ferland - *Climate Change and Energy Coordinator, FNQLSDI* Niklas Rusche - *Renewable Energy Project Manager, FNQLSDI*
10:15 – 10:30	Break
10:30 – 11:00	**Renewable energy and microgrids** Valérie Bouchard, M. Eng. - *Assistant, Research and Innovation, Nergica* Asma Dhakouani - *Assistant, Research and Innovation, Nergica*
11:00 - 11:30	**Relais de la Cache microgrid** Bonnie Jérôme - *Administrative assistance for Economic Development, Gesgapegiag* Mauricio Higuita-Cano, CEP – *Project Manager, Nergica*
11:30 – 12:00	**Socio-economic aspects of solar energy** Asma Dhakouaini, *Assistant, Research and Innovation, Nergica*
12:00 – 1:00 pm	Lunch break
1:00 – 2:30	**Breakout sessions with off-grid energy experts** 13:00 - Brief introduction of the experts in plenary (see page 3 for details) 13:25 - Start of breakout sessions 14:10 - Summary of plenary sessions
2:30 – 2:45	Break
2:45 – 4:00	**Funding Opportunities** Hannah Bihun - *Policy Analyst, Electric and Renewable Energy Division, Nature Resources Canada* Isaac Gielen - *Policy Analyst, Aboriginal Forestry and Biothermal Division, Canadian Forest Service* Stephanie Aldersley - *Canada Infrastructure Bank*

Day 2 - Thursday, February 3, 2022

8:45 – 9:00 am	Log-in
9:00 – 9:30	**Summary of the first day** Luc Lainé
9:30 – 10:30	**Energy Innovation and Transition Sector (EITS) of the Ministry of Energy and Natural Resources (MENR)** Annie Guertin – *Director of Master Plan and Customer Experience, EITS, MENR.* Bernard Lamonde – *Acting Managing Director of Operations and Innovation, EITS, MENR.*
10:30 – 10:45	Break
10:45 – 12:00	**Hydro-Québec and the energy transition** Marc-Antoine Pouliot – *Director of Communications, HQ.* Mathieu Boucher – *Director of Indigenous Relations, HQ.* Frédérik Aucoin – *Head of Market Development and Energy Expertise, HQ.*
12:00 – 1:00 pm	Lunch Break
1:00 – 2:30	**First Nations Leadership in Renewable Energy: Network Projects** Serge Simard – *Director, Economic Sector and Strategic Partnerships, Pekuakamiulnuatsh Takuhikan* Marc Genest - *Director of Economic Development, Essipit* Fred Vicar - *CEO, Mi'gmawei Mawiomi Business Corporation* Kirt Dedam – *Mesgi'g Ugju's'n Wind Farm*
2:30 – 2:45	Break
2:45 – 3:00	**Business and Entrepreneurship Support: The FNQLEDC** Steve Laveau - *Economic Development Advisor, First Nations of Quebec and Labrador Economic Development Commission*
3:00 – 3:30	**Renewable energy capacity building through training, mentoring and the community of practice** Terri Lynn Morrison - *Executive Assistant Director, Indigenous Clean Energy*
3:30 – 3:45	**Summary of the event & participants' comments** Luc Lainé
3:45 – 4:00	**Closing circle** Elder Rolland Tsei8ei

Breakout sessions: Off-grid energy (February 2 at 1:00 pm)

The objective of these sessions is to enable the participants and off-grid energy experts to get in direct contact with each other, talk about successful projects and ask questions about possible installations.

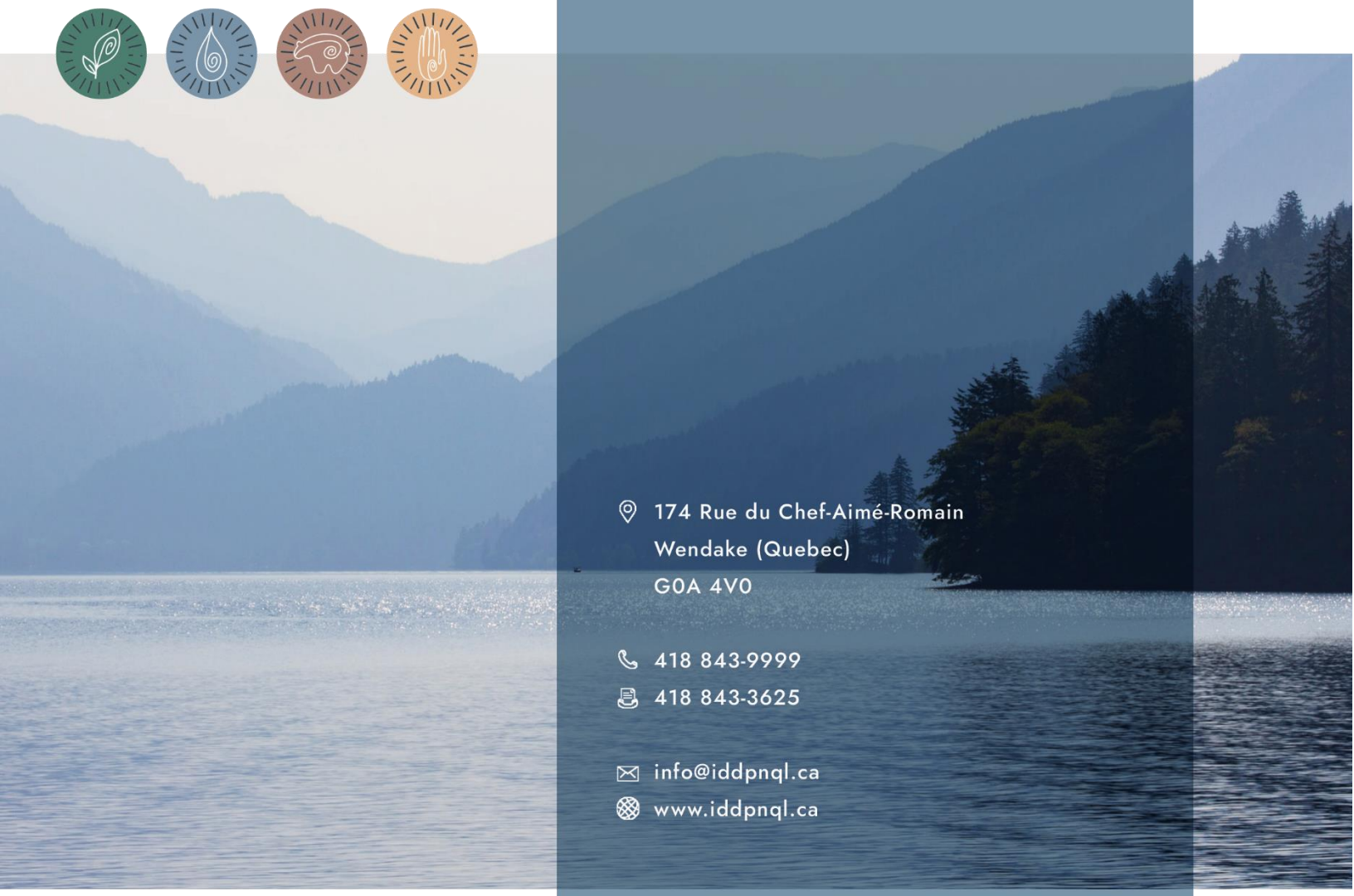
Group A French **Éric Vandal** – *Centre TERRE, Cégep Jonquière*
Eric has been a trainer in off-grid power systems and solar energy for many years. The analysis and optimization of electrical systems for small cottages and outfitters is part of his work. He will answer your questions about his organization and available training as well as the analysis and installation of off-grid solar systems.

Group B French **Patrick Goulet** – *President*, *Énergie Solaire Québec*
Énergie Solaire Québec is an independent non-profit organization that has been promoting renewable energies in Quebec since 1983. Patrick has a long experience in the field of renewable energies, specifically in the solar energy market. He will be able to discuss his experience and opportunities in the field.

Group C French **Justin Drody** – *Director of Forestry Gespeg*,
Sébastien Caron - *Volts Energies*
Justin and Sébastien will discuss Gespeg's project, which will power a sugar shack with 7,000 taps, entirely with renewable energies. Being located 9 km from the electricity grid, the facilities required an off-grid energy system. The installed system uses photovoltaic panels, batteries and a generator. It was installed by Volts Énergies, which is owned by Sébastien Caron.

Group D English **Martin Lambert** – *Ecosolaris*
Martin has many years of experience as a supplier of off-grid solar energy systems. He will discuss a project on equipping a cottage with solar panels and a heat pump for heating.

Group E English **Tagwongo Obamsawin** – *Ocean Renewable Power Company*
Fabienne Joly - *Ocean Renewable Power Company*
The remote community of Igiugig, Alaska, has partnered with Ocean Renewable Power Company to harness energy from the Kvichak River to offset its diesel consumption. Tagwongo and Fabienne will answer your questions about the potential of hydroturbines.



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