

WELCOME

KIPAWA HYDROELECTRIC PROJECT SUMMARY

The purpose of this presentation is to inform you about the Kipawa Project, which consists of the construction of two hydroelectric plants on Gordon Creek.

The Wolf Lake and Eagle Village First Nation Communities will be majority owners of the Project (52%) under a Partnership with Innergex, a private developer. Substantial royalties will be remitted to the MRC of Temiscamingue as well as to the municipalities of Témiscaming, Kipawa and Laniel.



GLOSSARY

Generator: Electromechanical equipment which transforms the mechanical power from the turbine into electricity.

Hydroelectric project: Set of civil structures and electromechanical equipment designed to produce electricity from water.

Dam: Structure built on a river or a creek to retain the water.

Tailrace channel: Channel excavated downstream of the hydroelectric plant to reconstitute the water to the river after it has passed through the turbines.

Powerhouse: Building housing the turbines converting the water's mechanical power into electricity.

Head: Variation between the upstream water level and the downstream water level.

Intake: Civil structure where the water is taken, located upstream of the powerhouse.

Power production: Quantity of electricity produced during a certain period, expressed in Wh, kWh ou MWh.

Installed Capacity: Capacity of a project to generate power under optimal head and flow conditions. The Installed Capacity is expressed in watt, kilowatt or Megawatt (MW).
1 MW is enough to supply power to approximately 120 Quebec homes.

Turbine: Mechanical equipment, generally looking like a propeller, rotating under the water's pressure, converting it into mechanical power.



SUMMARY

Tee Lake Plant

Location: Next to the existing Tee Lake Dam.

Installed Capacity: 5 MW.

Number of turbine(s): 1.

Rated flow: 71 m³/s.

Intake Channel: 100 m long.

Powerhouse: Surface small building.

Tailrace Channel: 100 m long.

Interconnection: Connection to the existing distribution grid.

Temiscaming Plant

Similar to the Gatineau Power plant in operation until 1969.

Location: From Lumsden Dam to Temiscaming Lake.

Installed capacity: 37 MW.

Number of units: 3.

Rated flow: 71 m³/s.

Intake: Located upstream of the Lumsden Dam, on the right bank.

Tunnel: 1,620 m in length, 6.2 m in diameter.

Powerhouse: New building replacing the old Gatineau Power plant.

Interconnection: New 1.1 km transmission line to the Kipawa switchyard.

Kipawa flow control structure

The existing flow control structure located in the Kipawa village will be upgraded with an automated gate for increased capacity and a better flow control.



ECONOMIC BENEFITS

During Construction

\$85 million in direct construction expenses:

- \$60 million in civil works.
- \$25 million in electromechanical supplies.

About 50 workers for a two-year period.

Once in Operation

Two permanent operators.

Occasional maintenance work for local contractors.

Substantial income for the Wolf Lake and Eagle Village communities.

Annual royalties to the MRC of Témiscamingue.

Annual royalties to the City of Témiscaming and to the municipalities of Kipawa and Laniel.



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PROJECT SCHEDULE

<i>Beginning of environmental impact studies:</i>	<i>June 2010</i>
<i>Public Hearings:</i>	<i>Sept. 2012</i>
<i>Certificate of Authorization from MDDEP:</i>	<i>Sept. 2013</i>
<i>Start of Construction (Témiscaming):</i>	<i>Sept. 2013</i>
<i>Start of Construction (Lac Tee):</i>	<i>May 2014</i>
<i>Commercial Operation Date:</i>	<i>Oct. 2015</i>



ENVIRONMENT

Environmental Assessment Studies will be conducted according to the specifications of the provincial Ministère du Développement durable, de l'Environnement et des Parcs and the specifications of the Department of Fisheries and Ocean Canada (water habitats). These studies will inventory the surrounding natural habitats and assess the impact of the Project, in order to propose measures designed to minimize and mitigate any impact.



ENVIRONMENT

During construction works

To minimize, avoid or compensate any impact:

- ***Using silt fences and dirt reducer.***
- ***Using controlled rock blasting methods (intake, tunnel, powerhouse).***
- ***Trucking routes agreed upon with the residents to minimize noise and dirt.***
- ***Protection measures for water habitats.***
- ***Water treatment ponds for streaming and pumped water.***
- ***Public consultation and follow-up (Stakeholders Committee)***
- ***Safety plan to protect the residents.***
- ***Creation of new fish habitats according to the requirements of the DFO and MNR.***
- ***Rehabilitation of construction areas after the construction period.***



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ENVIRONMENT

During the Project Operation

To minimize, avoid or compensate any impact:

- ***Environmental Monitoring Program over several years.***
- ***Water flows and water levels controlled automatically (water levels maintained in Tee Lake and Aux Brochets Lake).***
- ***By-pass gates in the Temiscaming powerhouse to avoid abrupt water level changes.***
- ***Ground and aquatic mitigation facilities (to be determined).***
- ***Comittment to maintaining significant compensation flows in the Kipawa River and Gordon Creek.***



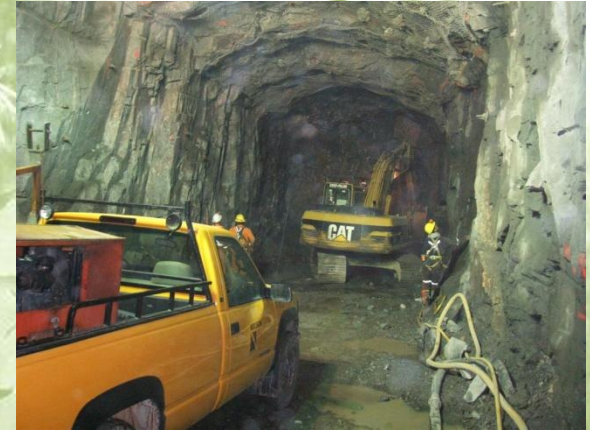
ENVIRONMENT

Residents' Concerns and Consultation

The tunnel

The minimum rock cover above the tunnel will be 55 metres. Below this thickness and where the head is significant (hydraulic pressure), a steel liner will be installed inside the tunnel.

This design criteria surpasses standard engineering practices, avoiding all risks of potential rock fractures and surface water seepage.



Water levels and water flows along Gordon Creek

The project is designed to maintain water levels in Tee Lake and Lac aux Brochets within a range of 0.3m or below. Automated gates in the Kipawa control structure and in the Tee Lake Dam, as well as by-pass gates, will be installed for this purpose.



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ENVIRONMENT



Ongoing public involvement

- ***Two years of Environmental Assessment Studies, including continuing public consultation;***
- ***Environmental Screening Report will be available for public consultation once issued;***
- ***Before any construction, the Project will be submitted for Public Hearings (BAPE);***
- ***A Stakeholders Committee will be created during the Environmental Studies and will be maintained for the duration of the Project's Construction and Operation. The Committee will include municipal representatives, association representatives and the Project partners.***



INNERGEX, AN EXPERIMENTED PARTNER

- Innergex is a Canadian leader in the renewable energy and a pionner in the windpower industry.
- Innergex develops and manages run of the river hydropower plants and windmills in North America.
- The Innergex's power plants generate clean power from renewable resources only.
- Since 1990, Innergex's team has been built 13 hydro plants and 3 windmills generating 491 MW, capacity to supply enough power to approximately 60,000 homes.
- Some examples of Innergex's hydro plants are illustrated below.

Run-of-river hydroelectric facilities	1 Rutherford Creek 49.9 MW	2 Horseshoe Bend 9.5 MW	3 Batawa 5.0 MW	4 Saint-Paulin 8.0 MW	5 Windsor 5.5 MW
	6 Chaudière 24.0 MW	7 Montmagny 2.1 MW	8 Portneuf-1 8.0 MW	9 Portneuf-2 9.9 MW	10 Portneuf-3 8.0 MW



Your opinion is appreciated!

We would like to get your opinion and comments about this presentation. You will find a survey form here below.

Thank you for your visit!



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