

NEMASKA LITHIUM

**LITHIUM HYDROXIDE
POWERING THE FUTURE**



**Whabouchi Project: designed to account for both
environmental, social and economic concerns**

June 1, 2016

Simon Thibault

Director Environmental
and Social Responsibility

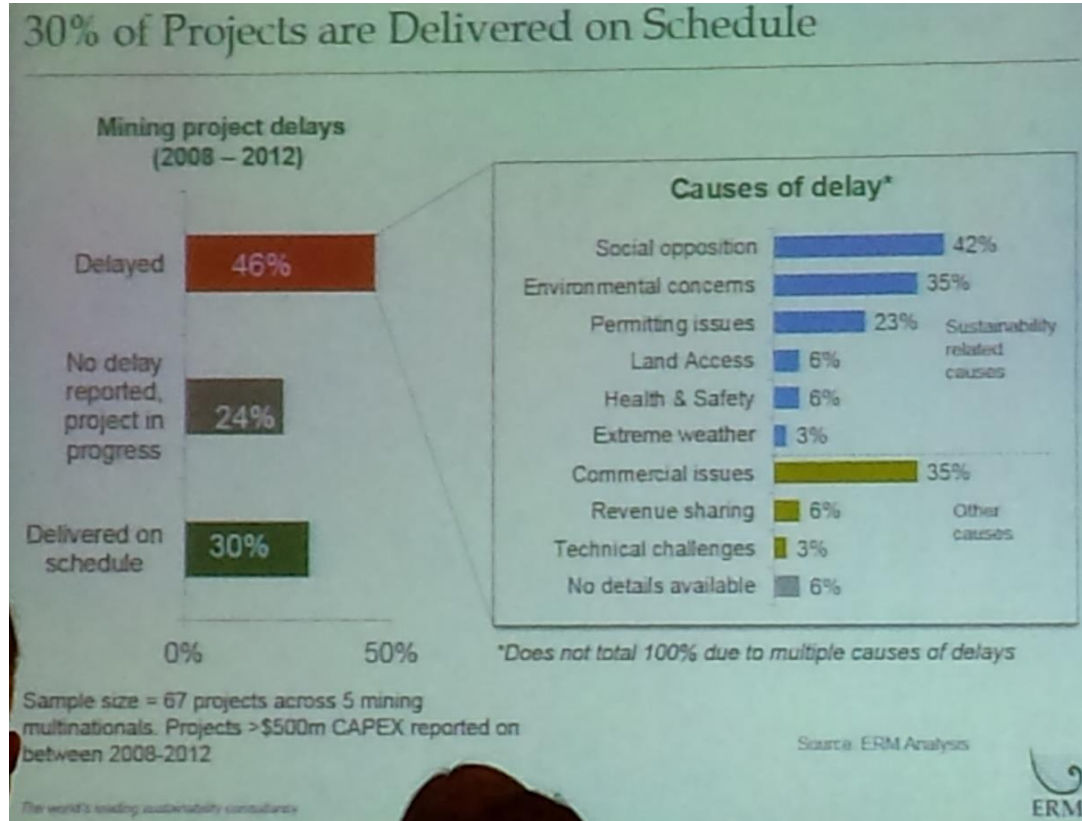
We do talk the talk...

- *Corporate Social Responsibility (CSR) [1960s]*
- *Sustainable Development [1988]*
- *Responsible Investment (PRI) [2005]*
- *Shared Value [2006-2011]*
- *TSM [2004], e3 plus [2009], ISO 26000 [2010], BNQ 21000 [2011]...*
- *Quebec's First Nations Consultation Policy for the mining sector [2016]*
- *Quebec's Green Book on Social Acceptability [2016]*
- *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector [2016]*
- *UQAT's Sustainable Development Guidelines for mining exploration [ongoing]*

“the business case of corporate social responsibility” [2010]



... but not walk the walk !



- *Problems with the social license to operate (SLO)*
- *Information Vs. Consultation*
- ***Non-technical risk management (upstream)***
- *Maximisation of local benefits*
- **Stakeholders**

Social Acceptability

- *Inherently refers to a potential non-acceptability*
- *Big tendency for project proponents to:*
 - *Oppose negative individual impacts and positive collective impacts*
 - *Inform to convince (downstream)*
 - *Risk assessment done only by authorities/proponents*
 - *Experts vs. citizens*
- ***However, experts and science are political and all risk assessment is a social construction***
- ***Social acceptability is therefore dynamic and collective***

Corinne Gendron, UQAM



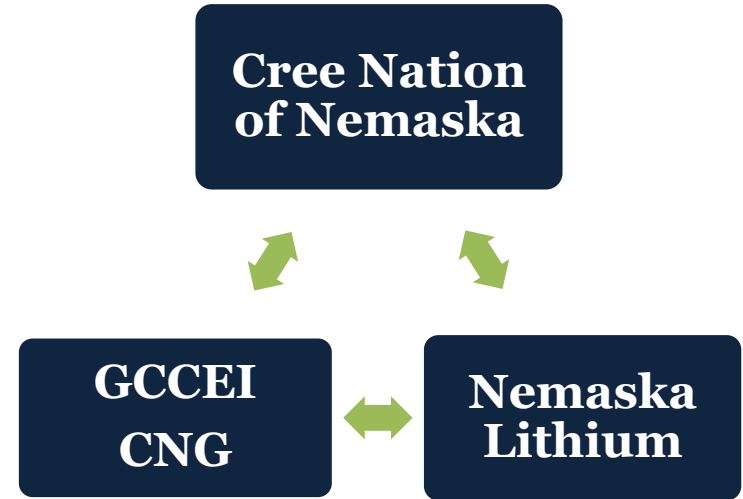
Whabouchi Mine Project

- *General Certificate of Authorization (COMEX-MDDELCC) and federal decision statement (CEAA) obtained during summer 2015*
- *Construction start-up in late 2016 (expected to last 19 months)*
- *Operations start-up in late 2018 (mine life of 26 years)*



Chinuchi Agreement

- *Signed in November 2014*
- *Long-term working relationship based on mutual trust and respect*
- *Whabouchi Implementation Committee*
- *Training, employment and business opportunities for the Crees*
- *Cooperation and involvement of the Cree Parties (ex. environmental monitoring at all phases)*



Information & Consultation

- ***Started in 2009, long before undertaking the ESIA of the project***
- ***Many community members and groups***
(tallymen, elders, hunters & trappers, youth, women, local authorities, etc.)
- ***Community Advisory Panel (CAP) created and liaison agent in 2012***
- ***Discussions held with representatives from different community entities to identify concerns and issues related to the project***



Concerns and Issues



Agence canadienne
d'évaluation environnementale

Canadian Environmental
Assessment Agency

901-1550, ave d'Estimauville
Québec (Québec) G1J 0C1
901-1550 d'Estimauville Avenue
Quebec, QC G1J 0C1

Numéro de référence du registre : 80021

Québec, le 19 décembre 2013

Monsieur Guy Bourassa
Nemaska Lithium inc.
450, rue de la Gare-du-Palais
1er étage
Québec (Québec)
G1K 3X2

OBJET : Projet de mine Whabouchi –Demande additionnelle de questions le projet minier Whabouchi

Monsieur,

Nous vous acheminons une demande de questions concernant le projet minier Whabouchi en supplément aux questions et commentaires qui vous avaient été acheminés le 27 novembre 2013. Cette demande additionnelle découle de l'analyse des préoccupations de la communauté crie de Nemaska exprimées lors des consultations tenues les 19, 20 et 21 novembre 2013 à Nemaska, dans le cadre de l'évaluation environnementale fédérale.

Consultations dans la communauté cree de Nemaska

Rapport sur les enjeux et les préoccupations soulevées

Projet minier Whabouchi
19 au 21 novembre 2013

ACEE Q132 :

Les localisations de la halde à stériles et à résidus miniers et, des bassins de sédimentation sont considérés par la communauté crie de Nemaska comme trop proche du lac des Montagnes. Cette communauté s'inquiète de la propagation des poussières pouvant émaner de la halde à stérile et à résidus miniers et des risques associés aux bris des bassins de sédimentation qui pourraient affecter le lac des Montagnes, les usagers du Bible Camp, les sources d'eau potable, la cueillette, la pêche et la chasse.

Considérant les impacts appréhendés, le promoteur a-t-il considéré d'autres options, techniquement et économiquement réalisables pour la localisation de la halde à stérile et des résidus miniers et, des bassins de sédimentation qui prendraient en considération les préoccupations de la communauté crie de Nemaska. Si de nouvelles options sont considérées (autres que celles déjà décrite dans l'étude d'impact du promoteur), une analyse des impacts des choix finaux de la localisation de la halde et des bassins de sédimentation devra être réalisée. Si la localisation de la halde et des bassins de sédimentation ne peut être modifiée, est-ce que des mesures d'atténuation additionnelles sont considérées par le promoteur pour réduire au minimum les impacts que pourraient générer ces infrastructures.



Concerns and Issues



Alternative Assessment

- **Limit** the amount of infrastructures to be implemented
- **Concentrate** them in the vicinity of the deposit
- **Minimize** the project ecological footprint

Several infrastructures depend on the **location of the deposit** (which can't be moved)

Natural and physical constraints:

- Mountain and Spodumene lakes
- Route du Nord
- 735 kV Power line

Other constraints:

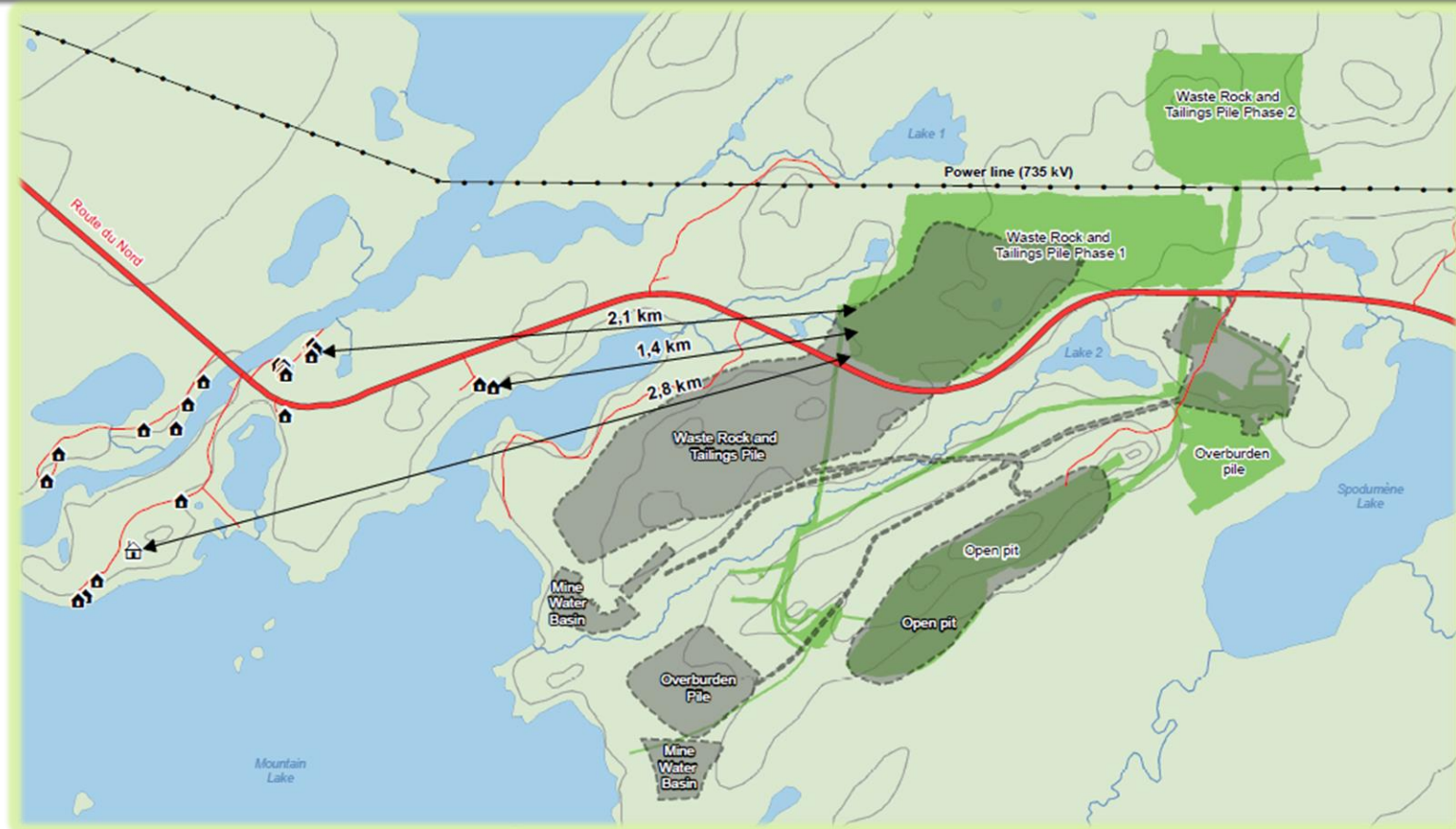
- topography
- surface deposits
- hydrography
- wetlands
- wildlife habitats
- land use
- water sources
- archaeology
- health & safety

Technical considerations:

- Pit slopes
- Minimum distances with blasting areas



Project Evolution



Project Evolution

SIMULATION ANNÉE 18

Before

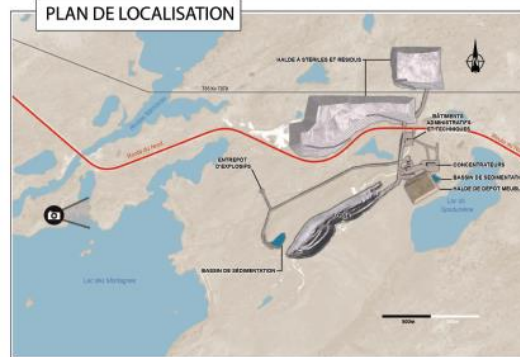


SIMULATION ANNÉE 26

After



PLAN DE LOCALISATION

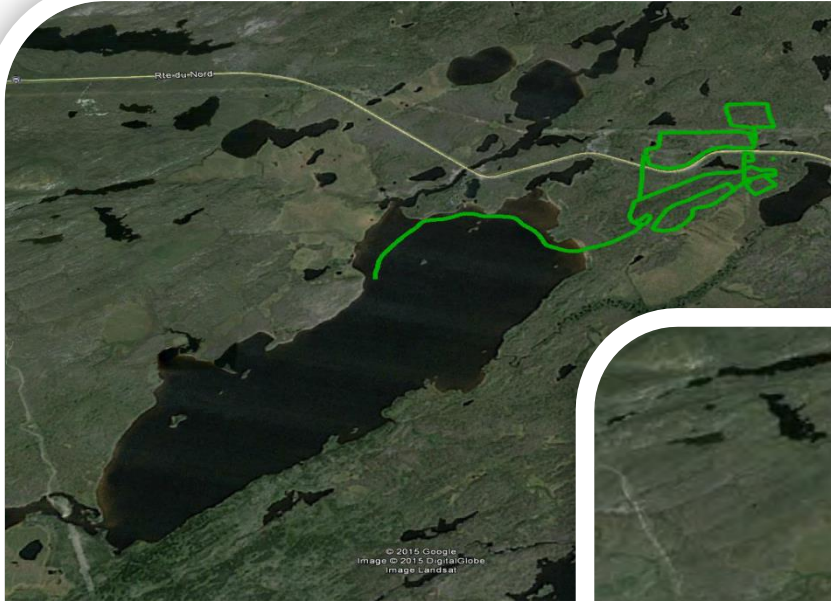


Tailings Management

- Production of a **filter cake** which is not pumped but trucked
- **Mount-Polley** Mine Tailings Dam Breach in B.C. (2014)
- Several **advantages** when compared to conventional tailings management:
 - High **water recirculation** rate (almost 100%)
 - High **reagents recycling** rate
 - Significantly lower spill/leak risks
 - **No dam** and thus **no potential failure/breach**
 - **Co-disposal** with waste rocks
 - Geotechnically stable
 - **Progressive restoration**
 - Significantly **smaller ecological footprint** (at surface & water management)

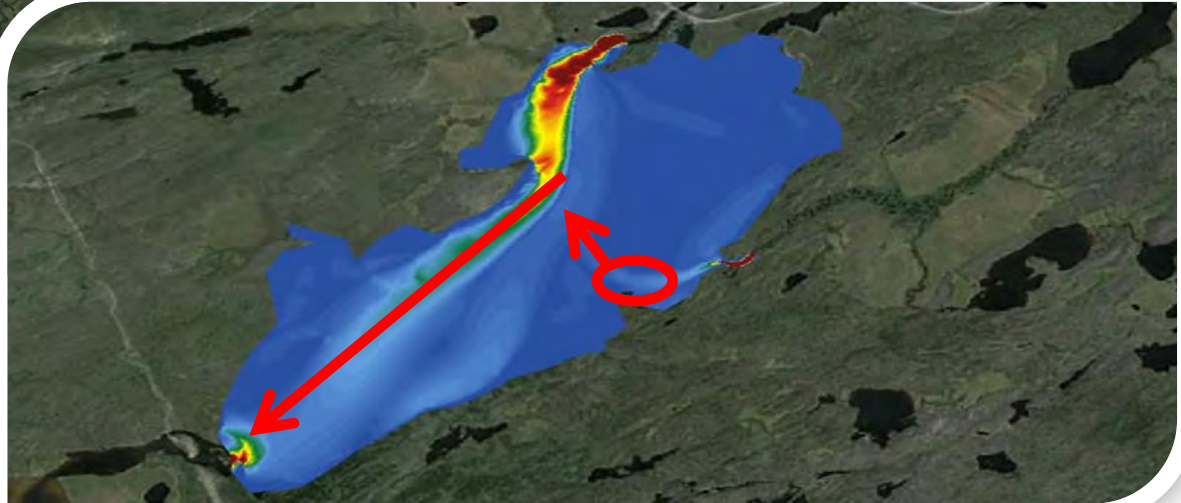


Water Management Plan



High dilution ratio and very positive modelling results for the dispersion of the effluent

But... not a good site for the tallyman



Tasks (in collaboration with NMX)

- ***Identify relevant environmental indicators** to provide for the implementation of monitoring of environmental aspects*
- ***Communicate** information to Nemaska community members*
- *Develop a **Rehabilitation and Restoration Plan***
- *Develop & implement an **Environmental Management System***
- *Develop an **Emergency Response Plan***



Program will monitor:

Integrity and physical stability of structures



Physical environment

- Weather and climate
- Ambient air quality and air emissions
- Groundwater quality and level
- Final effluent and surface water quality
- Vibrations and noise level



Biological environment

- Revegetation
- Wetlands
- Sediment quality,
- Fish and benthic invertebrate populations
- Avifauna
- Mammals
- Chiropterans



Social environment

- Land and resource use
- Employment and economic spinoffs
- Community well-being
- Transportation on Route du Nord



Local Employment and Procurement

How it is implemented

- *List of all jobs and contract opportunities in construction and operation*
- *List of all goods/inputs required in construction and operation*
- *Identify which can be provided locally, regionally, provincially, etc.*
- *Identify risks and opportunities (from a company/community standpoint) associated to all types of jobs, contracts, goods, etc.*

Benefits to Nemaska Lithium

- *Maximizes community involvement*
- *Ensures reliability of supply*
- *Lower costs of supply (shorter travel distances)*

Benefits to Communities

- *Increases benefits from resource development*
- *Enables local economic development*
- *Multiplying effect of initial investments in construction and operation*



Job Opportunities – Mine

Construction phase

about 375 employees

Operation phase

total of 191 positions over two shifts

(115 individuals will be on site at the mine at any given time)

- **101** individuals hired for the mine operations
- **69** to operate the concentrator, and
- **21** administrative employees

- **Types of jobs**
 - **Mining jobs** : drilling and blasting, trucking, heavy equipment (loaders, shovels, etc.)
 - **Process jobs** : plant operators
 - **Maintenance jobs** : electrician, millwright, mechanic and labourer
 - **On-site jobs** : janitor, security and driver



Job Opportunities – Mine

Job Description	Number of Employees	Degree/Diploma*	Program*	Certification	Duration
Transportation to Chibougamau (potentially sub-contracted)					
Truck Driver	n/d	Professional/Vocational (DEP)	Trucking	Driver's Cl. 1	1 to 2 years
Mining Engineering					
Mine Superintendent	1	Bachelor (B.Sc.)	Mine Engineering	Explosive Permit Driver's Cl. 5	4 to 6 years
Mining Engineer	2	Bachelor (B.Sc.)	Mine Engineering	Explosive Permit Driver's Cl. 5	4 to 6 years
Geologist	2	Bachelor (B.Sc.)	Geology	Driver's Cl. 5	4 to 6 years
Land Surveyor	2	Professional/Vocational (DEP)	Surveying and Topography	Driver's Cl. 5	1 to 2 years
Sub-total	7				

* In most cases, any relevant experience will also be considered



Job Opportunities – Mine

Job Description	Number of Employees	Degree/Diploma*	Program*	Certification	Duration
Metallurgy					
Senior Metallurgist	1	Bachelor (B.Sc.)	Metallurgical Engineering	-	4 to 6 years
Junior Metallurgist	1	Bachelor (B.Sc.)	Metallurgical Engineering	-	4 to 6 years
Technician	1	College (DEC)	Geological and Mineral Technology	-	2 to 3 years
Senior Assayer	1	College (DEC)	Geological and Mineral Technology	-	2 to 3 years
Assay Laboratory Technician	4	College (DEC)	Chemical Engineering Technology	-	2 to 3 years
Bucker (sample prep.- assay lab)	2	High School (DES)	Relevant experience considered an asset	-	0
Reagent Operator	2	High School (DES)	Relevant experience considered an asset	-	0
Sub-total	12				

* In most cases, any relevant experience will also be considered.



Job Opportunities

Job Description	Number of Employees	Degree/Diploma*	Program*	Certification	Duration
Maintenance					
Mill General Maintenance Manager	1	Bachelor (B.Sc.)	Mechanical Engineering	-	4 to 6 years
Electrical & Instrumentation Foreman	1	College (DEC)	Electrical or Electronic Engineering Technology	-	2 to 3 years
Maintenance Planner	1	Bachelor (B.Sc.)	Mechanical Engineering	-	4 to 6 years
Maintenance Journeyman	6	Professional/Vocational (DEP)	Industrial Maintenance Mechanics	-	1 to 2 years
Maintenance Helper (Apprentice)	2	Professional/Vocational (DEP)	Industrial Maintenance Mechanics	-	1 to 2 years
Electrical Journeyman	4	Professional/Vocational (DEP)	Electricity	-	1 to 2 years
Electrical Helper (Apprentice)	2	Professional/Vocational (DEP)	Electricity	-	1 to 2 years
Instrumentation Technician	2	Professional/Vocational (DEP)	Automated Systems Electro-Mechanics	-	1 to 2 years
Instrumentation Helper (Apprentice)	2	Professional/Vocational (DEP)	Automated Systems Electro-Mechanics	-	1 to 2 years
Sub-total	21				

Note: In most cases, a Class-5 driver's licence is considered an asset.

** In most cases, any relevant experience will also be considered.*

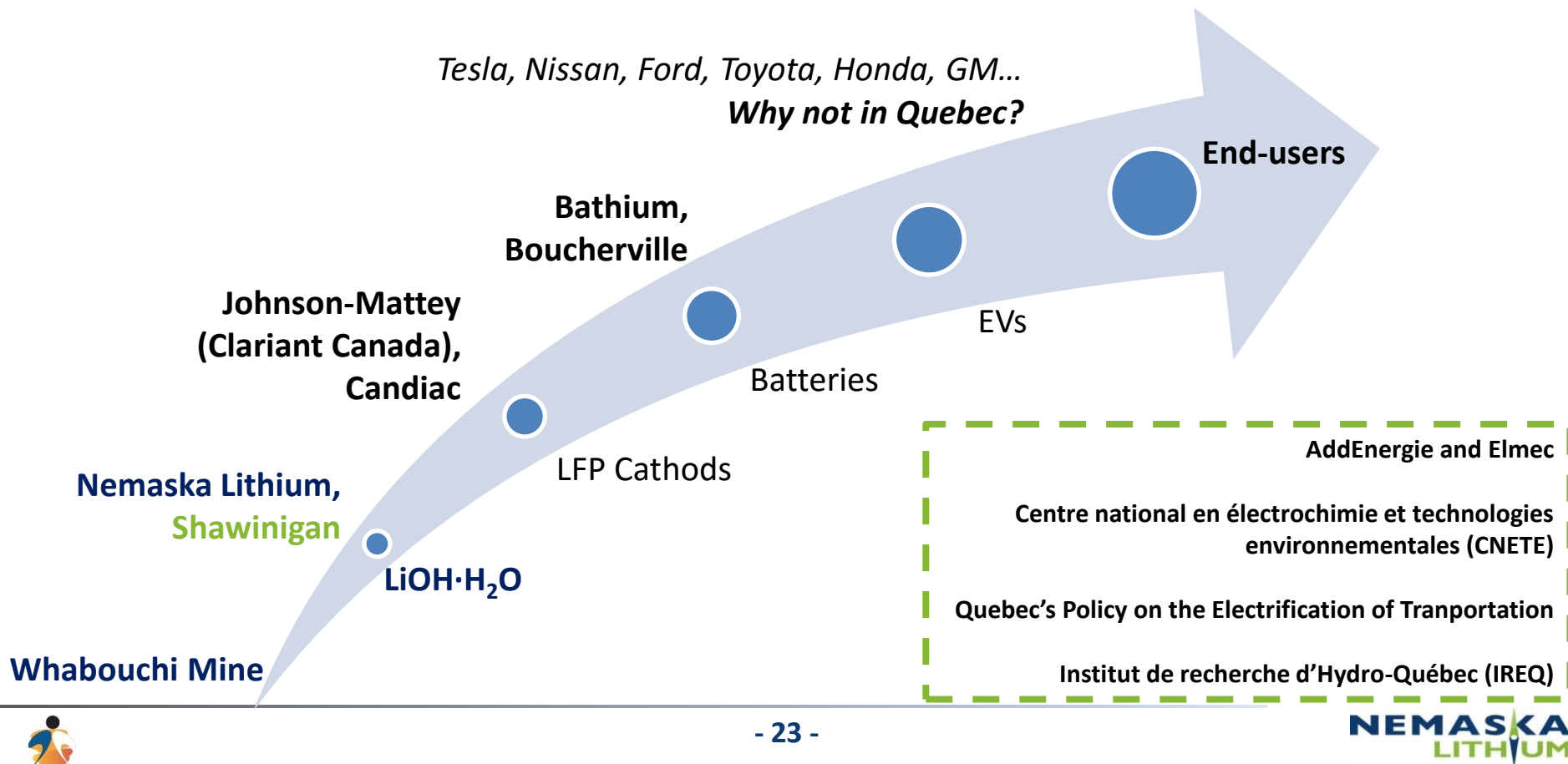


Continuing the Discussion

- ***New website with easy-to-access and updated information***
 - *Job and business opportunities*
 - *Environmental and social monitoring*
 - *Information in Cree language (syllabic)*
 - *Etc.*
- ***Liaison Agent in Nemaska***
 - *Explaining the conditions included in both provincial (COMEX) and federal (CEAA) authorizations*
 - *Chinuchi Agreement and associated committees (ex. WIC, Environment)*
 - *Regular follow-up meetings with key stakeholders*



Explaining Nemaska Lithium



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*Meegwetch
Thank you
Merci*

Québec



www.nemaskalithium.com