

# Reconstruction of the thermal plant and dryers

Form : Preliminary Information

Barrette-Chapais Ltée  
Final Version

May 2023  
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**eNGLOBE**



# Barrette-Chapais Ltée

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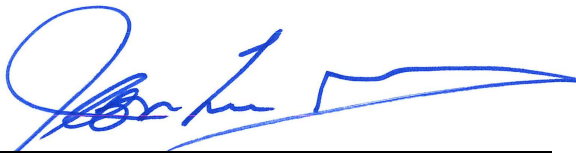
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# Preamble

The James Bay and Northern Quebec Agreement (JBNQA), by its chapters 22 and 23, establishes a system of protection for both the natural and social environment in the James Bay and Northern Quebec region. Depending on the type of project, some aspects of these chapters may report under the responsibility of the Government of Canada, or the Government of Québec or both levels of government. Some projects can also be reported under the responsibility of the Cree Nation Government, notably for projects conducted on Category IA lands. Title II of the Environment Quality Act (EQA) presents the environmental and social impact assessment and review procedures applicable in the James Bay region (section 133 of the EQA) and in Northern Quebec (section 168 of the EQA).

The projects mentioned in schedule A of the EQA are subjected to one of the procedures applicable in the Northern environment, contrary to those mentioned in schedule B, which are exempt from the procedures. Projects not outlined in either schedule are considered "grey zone" projects. Anyone who intends to undertake a project in a northern environment covered by schedule A of the EQA must apply for a certificate of authorization. For "grey zone" projects, a proponent must request an attestation of exemption and the Provincial Administrator will confirm to him, after analysis of the project by the northern committee concerned, whether the project is not subject to the Environmental and social impact assessment and review procedure or if it is subject to it. In the first case, an attestation of exemption will be issued to the proponent for the project and, in the second, a directive will be prepared and sent to him, which will indicate the nature, scope and extent of the impact study he must prepare. Thus, except for the projects listed in schedule B, a proponent must file a preliminary information form with the Provincial Administrator of the JBNQA. If necessary, it is possible to confirm whether your project corresponds to an activity listed in schedules A and B of the EQA or a "grey zone" by sending an e-mail request for verification of exemption, including a short description of your project, its location, and the anticipated impacts at the following e-mail address: [dgees-assujettissement@environnement.gouv.qc.ca](mailto:dgees-assujettissement@environnement.gouv.qc.ca).

The preliminary information form is used to describe the general characteristics of a project. It must be completed in a clear and concise manner and the information must be limited to the elements that are relevant for a proper understanding of the project, its anticipated impacts, and possible ramifications.

In accordance with the EQA, the preliminary information form is either sent to the Evaluating Committee (COMEV), if the project concerns the region south of the 55th parallel (James Bay), or to the Kativik Environmental Quality Commission (KEQC), if the project concerns the region north of the 55th parallel (Nunavik). These two committees review the preliminary information and, in the case of projects covered by schedule A of the EQA, produce a recommendation on the directive indicating the nature, scope, and extent of the study impact that the proponent must prepare. For "grey zone" projects, these committees produce a recommendation (COMEV) or a decision (KEQC) on whether the project is subjected to or exempt from the procedure. These recommendations and decisions are then forwarded to the Provincial Administrator who communicates his decision to the proponent. The proponent may be issued an attestation of exemption for projects that are exempt from the procedure or issued a directive for those subjected to the environmental and social impact assessment and review procedure.

The Evaluating Committee is a tripartite advisory body composed of representatives appointed by the Cree Nation Government and representatives of the Government of Canada and the Government of Quebec. The Kativik Environmental Quality Commission is a bipartite body of Inuit or Naskapi representatives appointed by the Kativik Regional Government and representatives of the Government

of Quebec. While performing their duties, both bodies pay particular attention to the following principles, which are outlined in sections 152 and 186 of the EQA:

- a) the protection of the hunting, fishing, and trapping rights of the Native people;
- b) the protection of the environment and social milieu;
- c) the protection of the Native people, of their societies, communities, and economy;
- d) the protection of the wildlife, of the physical and biological milieu, and of the ecological systems of the territory;
- e) the rights and guarantees of the Native people in Category II lands;
- f) the participation of the Crees, Inuit and Naskapis in the application of the environmental and social protection regime provided for in this division;
- g) any rights and interest of non-Native people, and

h) the right of the persons acting lawfully to carry out projects in the territory. Also note that the preliminary information form will be published in the Environmental assessment register (French only) as defined in section 118.5 of the EQA but only for projects for which a directive will be issued. The COMEV and KEQC also publish preliminary information form on their websites. Since May 2022, the applicant for any authorization must produce, as a condition for the issuance of an authorization, the applicant's declaration of background (déclaration d'antécédents). This declaration replaces the declaration of the applicant. You will find the form to be completed at the following address :

<https://www.environnement.gouv.qc.ca/evaluations/declaration-antecedents.pdf> (French only).

The preliminary information form must be accompanied by the payment, charging the proponent for services provided under the environmental authorization system. This payment can be made by check to the ministre des Finances or via bank transfer. Details regarding the applicable rates are available in the Tarification section (French only) of the environmental assessment web page. It should be noted that the MELCCFP (ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs) will not process the application until payment is received.

Once completed, the proponent must send its preliminary information form together with a letter of transmission, which must be sent to the JBNQA Provincial Administrator: -Send the electronic copy of the documents (form and letter of transmission) to [reception.30e@environnement.gouv.qc.ca](mailto:reception.30e@environnement.gouv.qc.ca) including the Deputy minister ([marie-josee.lizotte@environnement.gouv.qc.ca](mailto:marie-josee.lizotte@environnement.gouv.qc.ca)) as well as Vanessa Chalifour, coordinator/team leader for northern projects ([vanessa.chalifour@environnement.gouv.qc.ca](mailto:vanessa.chalifour@environnement.gouv.qc.ca)). The letter of transmission must confirm that the hard copies are consistent with the electronic ones. In case of large electronic documents, please consult the last bullet.

Send a hard copy of the documents (French) to the Deputy minister office at the following address:

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Deputy minister of the Environment, Fight against Climate change, Wildlife and Parks  
Édifce Marie-Guyart, 30e étage  
675, boul. René-Lévesque Est, boîte 02  
Québec (Québec) G1R 5V7

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**Projects located south of the 55th parallel (James Bay)**

Nine (9) hard copies, including six (6) in French and three (3) in English  
Three (3) PDF copies in electronic format  
Additional copies may be requested depending on the scope of the project.

**Projects located north of the 55th parallel (Northern Quebec/Nunavik)**

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If the electronic documents are very large: Inform the Direction de l'évaluation environnementale des projets industriels, miniers, énergétiques et nordiques ([vanessa.chalifour@environnement.gouv.qc.ca](mailto:vanessa.chalifour@environnement.gouv.qc.ca)) and a secure link allowing you to send your documents on the ShareFile platform will be shared with you. This link will be valid for a period of 7 days. Attach the letter of transmission to the email, indicating that the electronic version will be transmitted via the ShareFile platform of the DGÉES.



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# 1 Identification and Contact Information of the Proponent

## 1.1 Identification of the Proponent

Table 1: Identification of the proponent

Item	Description
Name :	Barrette-Chapais Ltée
Civic address :	583, ch. du Grand-Bernier N Saint-Jean-sur-Richelieu (Québec) J3B8K1 Canada
Mailing Address (if different form civic address) :	N/A
Name and position of signing officer(s) authorized to submit the application:	Benoît Barrette, President
Name and title of contact person:	Yann Sellin, General Manager
Telephone number:	418-745-2545, poste 4332
Telephone number (other):	
E-mail address:	<a href="mailto:Yann.Sellin@ebarrette.com">Yann.Sellin@ebarrette.com</a>

The applicant's declaration of background (form AM36) completed by the proponent is available in Appendix A.

## 1.2 Québec Enterprise Number

The applicable Québec Enterprise Number (NEQ) is 1140620569.

## 1.3 Resolution of the Municipal Council, Band Council, Northern Village or Lead Agency

As the proponent is not a municipality, the preliminary information form does not contain a resolution from the municipal council, band council, northern village, or lead agency.

## 1.4 Identification of the Consultant Mandated by the Proponent

Table 2: Identification of the mandated consultant

Item	Description
Name :	Englobe Corp.
Civic address :	505, boul. du Parc-Technologique, bureau 200, Québec (Québec) G1P 4S9
Mailing address (if different from civic address) :	N/A
Telephone number:	418-781-1091 poste 105441
Telephone number (other):	N/A
Email address:	Jean-Luc.Bugnon@englobecorp.com
Description of the mandate:	Request for attestation of exemption to the environmental assessment process and review of the environmental and social impacts



## 2 General presentation of the project

### 2.1 Project title

Project to rebuild a thermal plant and wood dryers on the Eeyou Istchee James Bay Regional Government's territory of application.

### 2.2 Article of accordance

This project is considered a "grey area" because it is not covered by either Schedule A or Schedule B of the *Environment Quality Act* (EQA). In fact, it is not a new sawmill or a new wood processing or treatment plant, but rather the rebuilding of a thermal plant and wood dryers. The thermal plant will have a heating capacity of 9,900 kWth. However, the plant will not be powered by fossil fuels, but rather by biomass, i.e., exclusively bark. Fossil-fuel-powered thermal plants with a heating capacity of 3,000 kWth or more are subject to environmental impact assessment. Nevertheless, this thermal plant is not powered by fossil fuels.

Given the environmental, social and economic impacts described in this document, Barrette-Chapais wishes to demonstrate to the COMEV that this project is not subject to the environmental impact assessment as described in the EQA, Chapter II. Without wishing to evade its legal obligations relating to its industrial operations in Nord-du-Québec, the proponent wishes to demonstrate that any adverse environmental impacts stemming from this project are minor. The following sections provide sufficient detail about the project to enable the authorities to issue an attestation of exemption from the requirements of the EQA, Chapter II.

The former Barrette-Chapais thermal plant has already been assessed by the COMEV. An attestation of exemption from the requirements of the EQA was issued by the COMEV in August 2014. The

project then followed the authorization request process for southern Quebec with the result that authorizations for the construction and operation of a new biomass combustion unit and the installation of an electrostatic precipitator were issued in September 2014 and December 2014 respectively. The attestation of exemption and the prior authorizations are shown in Appendix B. The new thermal plant will be identical to the former one in terms of capacity, fuel source, and discharges to the environment.

## 2.3 Objectives and justification of the project

On December 23, 2022, a fire broke out in the Barrette-Chapais thermal plant after a boiler exploded. The two bark silos that fuelled the plant as well as one of the dryers were also completely destroyed. The sawmill is still operational but the drying unit is not. It is in this context that Barrette-Chapais wishes to rebuild its thermal plant and dryers at its site located along Route 113 near the Town of Chapais. The project is located in the Eeyou Istchee James Bay Regional Government's territory of application.

Barrette-Chapais is a forestry company that owns the largest sawmill complex in Quebec; this facility is also the most efficient in the province in terms of fibre recovery. This complex produces more than 285,000,000 FBM (board feet) of forestry products per year. Due to the fire, wood is currently dried in plants in Lac-Saint-Jean and Abitibi, which represents transportation of a considerable volume (approximately 200 truckloads per week) as well as costs that are not indefinitely sustainable. Rebuilding the thermal plant and adding new dryers is therefore a company priority in order to restore operations and preserve its sawmill in Chapais. Maintaining jobs at the plant is a major issue for the company since more than 350 sawmill workers and some 150 forestry workers depend on the continued operation of the plant. Local businesses and the Oujé-Bougoumou Indigenous community use forest products from this facility. Closure of the sawmill would also have major repercussions on other regional actors such as Chapais Énergie in Chapais.

Barrette-Chapais wishes to take advantage of this situation to install improved technology for the new dryers. These new dryers would continuously dry the wood, as opposed to the previous batch-based technology. The advantage of the improved technology is its use of constant thermal output and potential energy savings. The new dryers will therefore not only maintain the existing authorized capacity of 285 million FBM but also offer better overall performance. They will replace the five dryers that were in use before the fire while still providing the same heat capacity as before.

## 2.4 Brief description of the project and alternatives

The project involves rebuilding the thermal plant and installing two new dryers. The first step is to prepare the site for construction. First, the soil will be excavated for the pouring of the concrete foundations of the thermal plant and the two dryers. This must be done during favourable weather conditions, i.e., during the summer when there is no deep frost. Indeed, the time window for laying concrete foundations in the Nord-du-Québec region is narrow.

The planned thermal plant will then be built. The main contractor for the building construction and equipment installation is Fabmec based in Saguenay. The electrostatic precipitator that will be recovered from the former thermal plant will be installed in the new plant (Figure 1). The continuous dryers will then be installed onsite. The former thermal plant will be taken down once the insurers have completed their investigation of the fire. This operation which is unrelated to this construction project will be planned in accordance with relevant governmental requirements.





**Figure 1: The former plant's electrostatic precipitator**

The new thermal plant will be fuelled by bark from the sawmill operations (Figure 2). The thermal plant destroyed by the fire was fed by 19,000 dry metric tons (dmt) of bark per year and the new plant will have a similar or lower rate. No fossil fuels will be used. Atmospheric emissions will be produced during combustion. The electrostatic precipitator recovered from the old plant as well as a multi-cyclone will be used for atmospheric emission control. Approximately 800 tons/year of grate and fly ash will be generated during the combustion process. These materials will be transported to the Barrette-Chapais landfill north of the site (Appendix C). The heat produced by the thermal plant will be used for the continuous dryers. These machines will dry a total of 285 million FBM per year, the same annual production as before. Condensate will be produced during the drying process.

Non-hazardous residual materials will be generated by the employees, i.e., domestic waste. The waste will be sent to the engineered landfill in Chibougamau and the recyclable materials will be collected by the municipality. The only hazardous residual materials will be those generated by maintenance work on the thermal plant and the dryers. The quantity of hazardous residual materials that will be generated will be similar to that generated by the former plant, i.e., almost negligible (a few kg per year). These materials will be properly treated like the other materials generated by the other areas of sawmill operation. They will be stored in waterproof containers in a storage area and will be recovered by the industrial cleaning company Amnor Industries.

The project location plan is available in Appendix C and the preliminary project plans and specifications are available in Appendix D. The equipment data sheets are available in Appendix E.

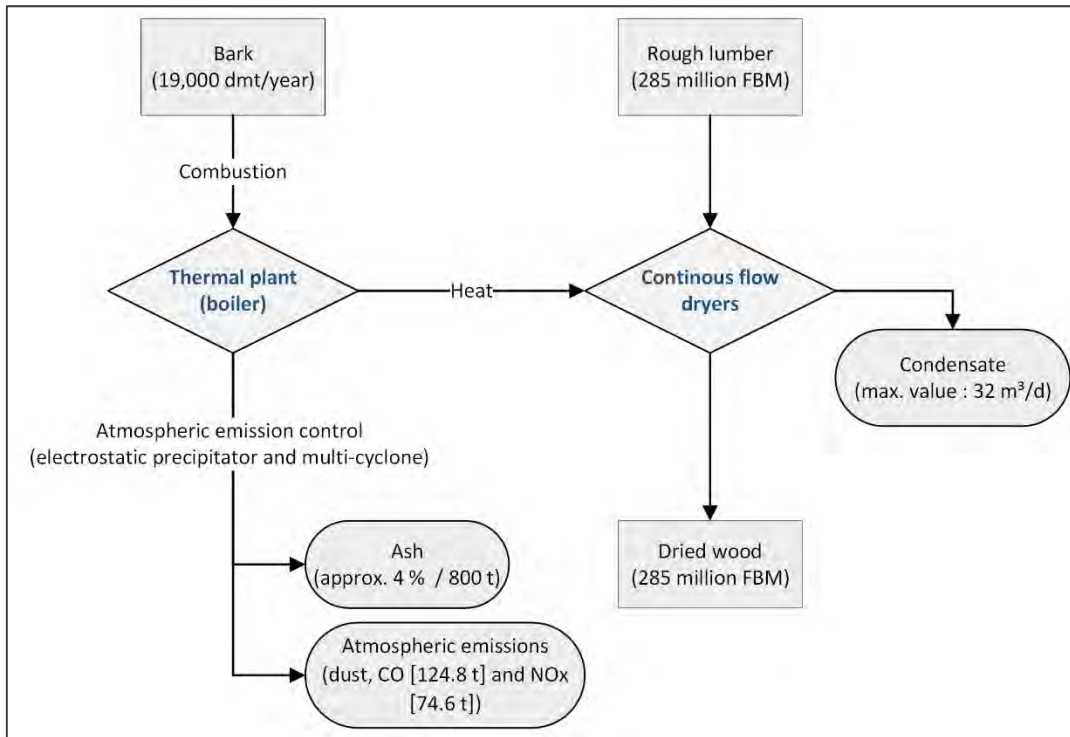


Figure 2: Process diagram for the thermal plant and its continuous dryers

## 2.5 Related activities

The project's main objective is to rebuild the thermal plant and construct two new dryers. Since the site is already developed and the access road to the site is already in operation, there are no plans to build an access road. The location of the proposed infrastructure is currently a large area without any vegetation. This means that since the work will be carried out in an already-used industrial zone, no deforestation, grubbing or stripping is planned.

Site development around the thermal plant and dryers will require a rolling surface for mobile equipment. This surface will therefore be paved. Surface water will be managed by the installation of a surface water collector and underground pipe connecting the new surface water collection network to the industrial site's overall system.

The area where the thermal plant and dryers will be built is currently occupied by piles of wood that rotate from month-to-month. This temporary storage of piles of wood will be relocated to areas on the industrial site that have already been designated. No new storage areas will be required.

No other project-related activities are planned.



# 3 Project Location and Schedule

## 3.1 Identification and location of the project and its activities

The project will be carried out on the Barrette-Chapais site located at km 346 on Route 113 near Chapais. The project site corresponds to a portion of lot 4 959 563 of the Quebec land register. The project site is located on Category III lands owned by Barrette-Chapais Ltée. in the Eeyou Istchee - James Bay Regional Government's territory of application.

Land categories (I, II or III): III

The geographic coordinates of the project's centre point are:

- Latitude : 74.7191
- Longitude : 49.7893

## 3.2 Description of the project site

The project site is directly located in the lumber yard of the Barrette-Chapais property. The site can be accessed from Route 113. Several buildings are located elsewhere on the site, including the sawmill and a wood pellet plant south of the railway. The wood pellet plant is located on lot 4 959 754 of the Quebec land register. A ditch is located west of the project site (Appendix C). The site topography is generally flat. The land is owned by Barrette-Chapais Ltée.

The land is zoned industrial (code: 49(12)-22-I). This designation allows business and service uses in the following sectors: low- and medium-impact commercial and automotive-related services and industries, high-impact commerce and industry, extractive industry, public utilities and resource exploitation (Gouvernement régional d'Eeyou Istchee Baie-James, 2022).

The following sections present the main environmental features of the physical, biological and human environments potentially affected by this project.

### 3.2.1 Physical environment

A site-specific geotechnical and environmental characterization study of the soil is currently being carried out by WSP. In March 2023, six boreholes were drilled at the site of the proposed thermal plant and dryers (Appendix F). Based on preliminary data from the WSP study, the site soils meet the criteria for an industrial site and for reuse on the site (Appendix F). Based on these analyses, metals, namely, chromium in the Criteria A-B range and molybdenum in the Criteria B-C range, were found in one sample (Table 3). C<sub>10</sub>-C<sub>50</sub> petroleum hydrocarbons (PHs) in the Criteria A-B range were identified in three samples and in the Criteria B-C range in one sample (Table 3). All soils above Criterion A, disposed of offsite, must be managed in accordance with both the excavated soil management grid contained in the *Guide d'Intervention* [Response guide] published by the Quebec Ministry of the Environment, the Fight against Climate Change, Wildlife and Parks (MELCCFP) and the *Regulation respecting contaminated soil storage and contaminated soil management stations* (MELCC, 2021). Appendix F also includes the results of analyses performed by AGAT Laboratories.

**Table 3: Samples with concentrations above generic Criterion A in the boreholes drilled at the study site**

Drilling results (sample)	Contaminant	Level of Contamination	Estimated interval (m)
23-F02-MA-01	C <sub>10</sub> -C <sub>50</sub> PHs	A-B	0,00 – 0,61
23-F04-MA-01	Metals (chromium)	A-B	0,03 – 0,61
	Metals (molybdenum)	B-C	
	C <sub>10</sub> -C <sub>50</sub> PHs	B-C	
23-F04-CF-03	C <sub>10</sub> -C <sub>50</sub> PHs	A-B	1,22 – 1,83
23-F05-MA-01	C <sub>10</sub> -C <sub>50</sub> PHs	A-B	0,00 – 0,61

A soil characterization study of the site was also previously conducted by Terrapex in 2018. At that time, 23 trenches were dug, one of which, trench 17TE19, is in the area of the proposed thermal plant (Appendix F). Concentrations of phenolic compounds in the Criteria B-C range were found in this sample. This study concluded that the onsite soils are consistent with its industrial usage. Excavated soils in project areas with contaminated soils at concentrations above Criterion A will be managed in accordance with the *Guide d'Intervention's* excavated soil management grid and the *Regulation respecting contaminated soil storage and contaminated soil management stations*.

With respect to air quality, the sawmill, the pellet mill (south of the railway line) and the dryers on the Barrette-Chapais site generate atmospheric emissions. In 2018, an atmospheric emission dispersion study for the entire Barrette-Chapais site was conducted in relation to the proposed wood pellet plant (Appendix G). Although that study was conducted as part of an application for a ministerial authorization for the 777 pellet plant, it covered the entire Barrette-Chapais site and took into account the former thermal plant's boiler and dryers. Quebec's *Clean Air Regulation (CAR)*, section 75, stipulates that any new boiler fueled with wood residue must not emit more than 150 mg/m<sup>3</sup>R from boilers of 10 MW and below. According to that study, the most significant sources of atmospheric contaminants are boilers and dryers. The standards and criteria as well as the thresholds and interim criteria are met for the two residences closest to the site. These requirements are also met near the site. Atmospheric modeling indicates that the exceedances of volatile organic compound (VOC) emissions generated by the dryers are limited in time and space. However, these impacts are most evident at the site's northern boundary and then rapidly diminish with distance. The particulate matter sampling, as prescribed by the CAR, section 86, was performed by GA Techno Environnement in 2022. The purpose of this sampling was to measure atmospheric emissions from the Barrette-Chapais biomass boiler. According to a 2021 sampling, the former thermal plant's boiler met this standard. As described above, the new thermal plant will have the same capacity as its predecessor and will also use that plant's electrostatic precipitator. This means that the facility's atmospheric conditions should not change.

Greenhouse gas (GHG) emission data are covered in Section 6 of this report.

With respect to surface water, stormwater runoff, as shown in the diagram in Appendix C, is directed to a storm drain that is part of the plant's surface water collection system.

### 3.2.2 Biological environment

According to an analysis of available public data, there are no wetlands or waterbodies on the project site. The public data consulted included MELCCFP's identification of potential wetlands, satellite imagery, the Quebec Hydrographic Network GeoBase (GRHQ), and ecoforestry data from the former Quebec Ministry of Natural Resources and Wildlife (MRNF). The wetlands and bodies of water closest to the project site are approximately 120 m from the entrance to the Barrette-Chapais property. No protected areas are present on or near the project site (MELCCFP, 2022). There is a ditch to the west (Appendix C). This ditch flows south and then into another ditch further south (Appendix C).

Condensate will be sent to the existing stormwater pipe that drains east and eventually into Lac Sainte-Lucie (Appendix C). The list of fish likely to be found within the 10 km study area around the site is provided in Table 4 below (see also Appendix H). A total of 18 ichthyofauna species are present in the study area. Eleven of these species could potentially be present in Lac Sainte-Lucie. However, this small lake has limited habitat potential for ichthyofauna. None of the ichthyofauna species are identified as threatened, vulnerable or likely to become so. Lac Sainte-Lucie drains into a stream to the north.

**Table 4: Fish species within 10 km of the study site**

English name	Latin name	Likelihood of presence in Lac Sainte-Lucie
Lake sturgeon	<i>Acipenser fulvescens</i>	Very low
Northern sucker	<i>Catostomus catostomus</i>	Moderate
White sucker	<i>Catostomus commersonii</i>	Moderate to high
Lake herring	<i>Coregonus artedii</i>	Moderate to high
Mottled sculpin	<i>Cottus bairdii</i>	Low
Lake whitefish	<i>Coregonus clupeaformis</i>	Very low
Lake chub	<i>Couesius plumbeus</i>	Moderate to high
Spoonhead sculpin	<i>Cottus ricei</i>	Moderate to high
Brook stickleback	<i>Culaea inconstans</i>	Moderate to high
Northern pike	<i>Esox lucius</i>	Moderate to high
Burbot	<i>Lota lota</i>	Moderate to high
Spotted shiner	<i>Notropis hudsonius</i>	Moderate to high
Yellow perch	<i>Perca flavescens</i>	Moderate to high
Trout-perch	<i>Percopsis omiscomaycus</i>	Moderate to high
Ninespine stickleback	<i>Pungitius pungitius</i>	Moderate to high
Brook trout	<i>Salvelinus fontinalis</i>	Low
Lake trout	<i>Salvelinus namaycush</i>	Very low
Walleye	<i>Sander vitreus</i>	Moderate

Based on Sentinelle (Riverkeeper) data (MELCC, 2020), no invasive exotic plant species from the list of priority species to be considered for projects subject to the EQA have been identified in the study site area (MELCC, 2021).

According to data from the Centre de données sur le patrimoine naturel du Québec (CDPNQ), the centre on Quebec's natural heritage, no plant species that is threatened or vulnerable or likely to become so is located on or near the study site (Appendix H; CDPNQ, 2023). With respect to wildlife species that are threatened or vulnerable or likely to become so, three species were inventoried by the CDPNQ within 10 km of the study site (Table 5). The bank swallow (*Riparia riparia*) has no provincial status, but is considered threatened at the federal level. Due to the absence of sandy bluffs, the potential for this species to be present on the site is low. The presence of 10 other species within 10 km of the study site is also mentioned in the CDPNQ letter. Of these species, the following are unlikely to be present at the study site due to the absence of their potential habitat: olive-sided flycatcher, Canada warbler, rusty blackbird, rock vole and southern bog lemming (Table 5). Since the yellow-banded bumblebee uses several types of habitats, it could possibly be found on the site.

An assessment was made of the habitat potential for all the special-status plant and wildlife species in the Nord-du-Québec administrative region which could be found in habitats on the study site. Only species with a likelihood of presence on the study site above or equal to low were considered. The results are shown in Table 5. According to this analysis, the only floral species potentially present is the great northern aster (*Canadanthus modestus*), a species likely to be designated as threatened or vulnerable and which has been recorded approximately 20 km from the study site. This species is found in swamps, wetlands, wet meadows, sandy shores and urban land (Tardif and coll., 2016). However, since the site can no longer be characterized as a natural environment, it is unlikely that this species is present on the site. Given the presence of a waterbody within 1 km, bat species such as hoary bat, red bat, northern bat, silver bat and little brown bat could potentially be found on the site (Table 5). The presence of these species within 10 km of the site was mentioned by the CDPNQ. Barn swallows, which can nest in man-made infrastructures, could potentially be present. The common nighthawk, which inhabits open, unvegetated areas, could also be present on the study site. Given the absence of forests and streams on the study site, forest wildlife species like wolverine or woodland caribou are highly unlikely to be found on the site.

In short, since the study site is a disturbed location with little suitable habitat for wildlife species that are threatened or vulnerable or likely to become so, it is highly unlikely that special-status plant or wildlife species will be present there.

**Table 5: Special-status plants or wildlife species potentially present on the study site**

Species	Status (provincial/federal)	Habitat <sup>1</sup>	Likelihood of presence on the site
<b>Plants</b>			
Great northern aster ( <i>Canadanthus modestus</i> )	Potentially threatened or vulnerable / none	Waterbody banks, wet shrublands, peat fields	Low - no vegetation on the site
<b>Wildlife</b>			
Northern bat ( <i>Myotis septentrionalis</i> )	None / endangered	Boreal forest. Somewhat solitary, it takes refuge under tree bark and tree crevices	Moderate - species listed at the CDPNQ as within 10 km of the site.
Hoary bat ( <i>Lasiurus cinereus</i> )	Potentially threatened or vulnerable / none	Coniferous and deciduous forests, clearings and near waterbodies	Moderate - species mentioned in the CDPNQ letter, nearby waterbodies and open areas
Red bat ( <i>Lasiurus borealis</i> )	Potentially threatened or vulnerable / none	Coniferous forests, mixed forests, mature forest stands, clearings, rivers and water sources, urban areas	Moderate - species mentioned in the CDPNQ letter; nearby waterbodies and open areas
Little brown bat ( <i>Myotis lucifugus</i> )	None / endangered	Forests, lakes, near streams, swamps and clearings, urban areas	Moderate - species listed at the CDPNQ as within a 10 km radius; nearby waterbodies and open areas

Species	Status (provincial/federal)	Habitat <sup>1</sup>	Likelihood of presence on the site
Silver bat ( <i>Lasionycteris noctivagans</i> )	Potentially threatened or vulnerable / none	Forested areas, beside lakes, ponds and streams	Moderate - species mentioned in the CDPNQ letter; nearby waterbodies
Rock vole ( <i>Microtus chrotorrhinus</i> )	Potentially threatened or vulnerable / none	Coniferous or mixed forests, wet slopes, mossy rocks, cliffs, small clearings, near streams	Low - species mentioned in the CDPNQ letter; no potential habitat in the project area
Southern bog lemming ( <i>Synaptomys cooperi</i> )	Potentially threatened or vulnerable / none	Sphagnum and ericaceous bogs, grassy marshes and mixed forests surrounding bogs	Low - species mentioned in the CDPNQ letter; no potential habitat in the project area
Common nighthawk ( <i>Chordeiles minor</i> )	Potentially threatened or vulnerable / threatened	Aerial insectivore near waterbodies and in urban areas. Open areas with unvegetated soils such as rocky outcrops, cutovers, burnt-over areas, bogs and sand or gravel banks; gravel roofs	Moderate - species mentioned in the CDPNQ letter; nearby waterbodies and open areas with no vegetation
Bank swallow ( <i>Riparia riparia</i> )	None (candidate) / threatened	Near streams or waterbodies, sandpits; nests in sandy cliffs	Low - species listed at the CDPNQ as within 10 km of the site; no streams nearby
Barn swallow ( <i>Hirundo rustica</i> )	None / threatened	Open areas, near farms and streams where insects abound and buildings or other structures provide shelter for nesting	Moderate - nearby buildings
Olive-sided flycatcher ( <i>Contopus cooperi</i> )	Potentially threatened or vulnerable / threatened	Coniferous forests, semi-open bogs, burnt-over areas	Very low - species mentioned in the CDPNQ letter; no potential habitat in the project area
Canada warbler ( <i>Cardellina canadensis</i> )	Potentially threatened or vulnerable / threatened	Open mixed forests with saplings or a significant shrub layer or forests near wetlands, rivers or streams, or forests in the intermediate succession stage	Very low - species mentioned in the CDPNQ letter; no potential habitat in the project area
Rusty blackbird ( <i>Euphagus carolinus</i> )	Potentially threatened or vulnerable / of special concern	Riparian swamps or relatively flooded marshes bordering forests	Very low - species mentioned in the CDPNQ letter; no potential habitat in the project area
Yellow-banded bumblebee ( <i>Bombus terricola</i> )	Potentially threatened or vulnerable / of special concern	Mixed forest, farmland, urban areas, mountain meadows, grasslands and boreal environments	Moderate - species mentioned in the CDPNQ letter; open areas

<sup>1</sup> Tardif and coll., 2016; MELCCFP, 2023a.

### 3.2.3 Human environment

Two Cree communities are located near the site: Oujé-Bougoumou and Waswanipi. Since the project site already belongs to Barrette-Chapais, it is not currently used by these communities for ancestral activities.

The site is located in an industrial zone more than 8 km from the Town of Chapais's residential areas. A snowmobile trail belonging to the Club de Moto Neige de Chapais is located north of the study site and north of Route 113.

Forestry is one of the Nord-du-Québec region's main economic engines. In fact, this primary industrial sector represents the major portion of the Nord-du-Québec economy. Approximately 2.2% of jobs in the region are related to forestry, hunting and fishing (Statistics Canada, 2023). The Barrette-Chapais plant produces lumber from forestry operations and contributes to the Nord-du-Québec economy.

Barrette-Chapais also sells bark to Chapais Énergie, representing approximately 5%-10% of its supply. In addition, the Oujé-Bougoumou Indigenous community's hot water is supplied thanks to the burning of wood chips from the Barrette-Chapais sawmill. In a sense, the Barrette-Chapais sawmill serves as the hub of the James Bay circular economy.

### 3.3 Project schedule

Barrette-Chapais plans to start work on the new thermal plant and dryers in late May 2023. The construction and mechanical installation work will last several months – from May to December 2023. The new thermal plant is scheduled to start operating on January 4, 2024.

Meeting this deadline is crucial for the company's survival. The employment of more than 350 people is at risk if the company does not resume operations by then. The start of the construction work depends on the project evaluation made by the COMEV and the obtaining of an exemption from environmental impact assessment. In fact, the attestation of exemption must be attached to the request for ministerial authorization for the project which will be submitted to the MELCCFP. This authorization will be necessary to start the work.

Since the former thermal plant will be dismantled as soon as the insurers complete their investigation of the fire, the dismantling is not yet included in the project schedule.

The project schedule is shown in Appendix I of this report.

### 3.4 Location plan

A project site plan is presented in Appendix C. This plan shows the project lots, the existing buildings, and the location of the proposed new plant and dryers. Preliminary plans and specifications for the project are included in Appendix D.





# 4 Information and Consultation Activities with the Public, the Indigenous Communities and Land Users

## 4.1 Information and consultation activities carried out

To obtain a sense of the views of the indigenous community, the project to rebuild the thermal plant and install two continuous dryers was presented to Curtis Bosum, Chief of the Oujé-Bougoumou Indigenous community in a verbal discussion with Barrette-Chapais President Benoit Barrette on Tuesday, April 4, 2023. The current situation of the company was discussed and the project was explained. During this discussion, Mr. Bosum indicated that he had no objections to the project and did not see the need for further consultations or presentations to other community members based on what he was told.

## 4.2 Information and consultation activities planned during the environmental and social impact assessment procedure

No additional public consultation is planned in relation to this project.





# 5 Description of the Main Issues and Impacts of the project on the Receiving environment

## 5.1 Description of the main issues of the project

The project entails several environmental impacts that will be mitigated by certain measures. The project's main technical issues are summarized in the sections below.

### 5.1.1 Working in a northern environment

Since the project is being implemented in a northern environment, its completion will depend on favourable weather for the construction work, bearing in mind that the best period of the year for working with concrete is even shorter in northern environments. This technical issue imposes constraints on the project schedule.

### 5.1.2 Managing contaminated soils

During the project, soils will be excavated on the site. Since contaminated soils above Criterion A have been identified in the site area, contaminated soils will have to be managed in accordance with current regulations. The onsite soils are suitable for industrial use and can be returned to the site. However, if contaminated soils are to be disposed of offsite, they will be managed in accordance with the MELCCFP's *Guide d'intervention*. The Traces Québec traceability tool will then monitor the offsite disposal of this soil.

### 5.1.3 Managing atmospheric emissions

The main environmental issue during site operations is the release of atmospheric emissions. As required by the CAR, section 86, atmospheric emissions will be measured by a sampling program for the purpose of submitting mandatory annual reports of certain emissions of contaminants into the atmosphere. The thermal plant uses an electrostatic precipitator to precipitate particulate emissions from the boiler during combustion. The plant also uses a multi-cyclone to control atmospheric emissions.

The main sources of atmospheric contaminant emissions during the project will be the movement of machinery on the construction site. Since no transportation of large quantities of excavated material offsite is anticipated, impacts associated with road dust emissions are not expected to be a significant issue. Most of the excavation work will be carried out before the summertime when equipment installation will begin and then continue into the fall.

### 5.1.4 Treating condensate

Operation of the continuous dryers will produce condensate. As a result, the dryers will release water vapour into the atmosphere. Some of this vapour will condense on wood before precipitating. The water from the drying process will therefore be collected in the two floor drains located at each end of the drying chamber. This water will be discharged into the dryer gutters for transportation by gravity to buffer tanks. According to the manufacturer of the continuous dryers, the condensate must be treated for acidity and temperature. The condensate treatment will therefore address the issues of pH and temperature. The water will be stored in basins where it will be neutralized. While the water is there, its temperature will drop sufficiently to allow release of the water into the environment. The data sheet on the neutralization system used is provided in Appendix E. The treated water will meet the criteria of the MELCCFP's guidelines for pH parameters of 6.0-9.5 in the lumber and wood products industry (MELCCFP, 2023b). This value also corresponds to the value to be met under the environmental release requirements of the guidelines for managing water cooling tower bleed-off (MELCC, 2020). Condensate will be treated before discharge into the site's storm drain. This treatment will mitigate the adverse environmental impacts associated with the discharged water's temperature and pH.

### 5.1.5 Dismantling the current plant and managing residual materials

The current plant can only be dismantled once the insurance investigation is completed since the insurers are not allowing this burnt-down site to be restored until then. At that time, the plant will be dismantled in accordance with prevailing standards and regulations.

Non-hazardous residual materials will be collected, sorted and placed in waste and recycling containers before being managed and transported offsite. These materials will be sent to a nearby engineered landfill, while hazardous waste will be managed in accordance with current regulations. Some equipment such as the electrostatic precipitator will be recovered from the former thermal plant.

## 5.2 Description of the main anticipated impacts of the project on the receiving environment

This project does not entail any additional adverse impacts beyond those relating to the thermal plant and dryers that were on the site prior to the fire. In fact, the rebuilt thermal plant and the new dryers will have the same rated power as their predecessors. The facility's production will not be increased either, remaining at 285 million FBM. Similarly, the drying process also will not change except for the altered dryer configuration to continuous flow.

The following sections outline the anticipated impacts of the project on the physical, biological, and human environment and the various mitigation measures that will be put in place to minimize any adverse impacts on the receiving environment. Some of these impacts may also be positive. The project's anticipated impacts during site construction and operation are presented. Since the site is already completely cleared, site preparations will be limited to relocating the wood piles currently in the project area to other parts of the site. The anticipated impacts of this phase are therefore minimal.

## 5.2.1 Impacts on the physical environment

### 5.2.1.1 Soil and groundwater quality

During the construction phase, impacts on soil and groundwater are expected due to the presence of contaminated soil on the site and the risk of accidental hydrocarbon spills.

The contaminated soils characterized by WSP will have to be managed in accordance with prevailing regulations. However, if contaminated soils are to be disposed of offsite, they will be managed in accordance with the MELCCFP's *Guide d'intervention*. Clean or otherwise suitable soil will need to be used for the construction work. During the excavation phase and the potential management of contaminated soils, Barrette-Chapais intends to use the services of a firm that specializes in site monitoring to ensure compliance with environmental standards for managing potentially contaminated soils.

The use and refueling of machinery and transport vehicles during site preparation, construction, and operations represent potential sources of soil and groundwater contamination from the accidental spillage of grease, oil, or fuel.

Furthermore, while the dryers are operating, ash will be produced by the bark-fired boiler that feeds the thermal plant which operates without any fossil fuels. This ash will be sent to a landfill specifically authorized for ash disposal: the Barrette-Chapais landfill northeast of the site and north of Route 113.

To anticipate and minimize the project's potentially adverse impacts on soils and groundwater, the following mitigation measures will be implemented:

- Machinery will be refueled and serviced in a specific onsite area away from sensitive environments and permanently equipped with a spill kit.
- Only transport vehicles and construction machinery in good condition will be used.
- No mechanical maintenance of machinery will be performed on the construction site.
- Only officially compliant soils will be used as fill material.
- The contaminated soil management recommendations made in the soil characterization report will be applied.

### 5.2.1.2 Air quality

The anticipated impacts on air quality during the construction phase are limited. Dust may be generated by the operation of machinery during soil excavation.

During the operation phase, use of the thermal plant with a rated output of 9.9 MW and the dryers may result in the emission of airborne particles. The technology used for the dryers will recover some of the gaseous atmospheric emissions as condensate (representing approximately 10% of the gaseous emissions). No particulate emissions are anticipated from use of the new dryers.

The thermal plant burns biomass, primarily bark, to produce energy. No fossil fuels will be used. Although biomass is considered a renewable energy source, the thermal plant can emit GHGs, mainly biogenic gases and a few other air contaminants. The impact of GHG emissions is discussed in Section 6 of this report. Some particles may therefore be emitted into the atmosphere during bark combustion. An electrostatic precipitator and a multi-cyclone on the site will be used to limit particle

emissions. As previously mentioned, this is the same equipment that was used in the thermal plant before the fire. Since the facility's annual production will not change with the new equipment, the conclusions of both the 2018 atmospheric study and the 2021 sampling program conducted at the site are still valid. The boiler that exploded during the fire in December 2022 will be replaced in the new construction.

### 5.2.1.3 Surface water quality

With respect to surface water, the impacts anticipated during construction are limited to a possible increase in suspended solids in the ditch located west of the construction area. However, all the land used for machinery traffic will be paved. Surface water will be collected in manholes connected to pipes that will transport it to the industrial site's surface water management system.

On the other hand, as with soil and groundwater, surface water could be contaminated at all stages of the construction work as well as during subsequent site operations due to either mechanical breakdown or accidental spills. If petroleum products are spilled during the use and refueling of motorized vehicles and equipment, this could be a potential source of surface water contamination. At no time will such refueling of mobile equipment be allowed on the construction site. During operations, all mobile equipment will have to refuel at the industrial site's user station located approximately 500 m from the site.

During the operation phase, anticipated impacts revolve around the release of condensate into the environment. In practice, the new continuous dryers will reduce the amount of condensate-creating water vapour released into the atmosphere (decrease of about 10%). This condensate will be collected by floor drains in the drying chamber. According to the manufacturer of the continuous dryers, this condensate must be treated for acidity and temperature. As described above, the pH of this discharge will be treated and its temperature will also be controlled to avoid contaminating the surface water, a data sheet on the neutralization system used is provided in Appendix E. Before water is released into the site's pipes, its pH and temperature will be monitored. These data will be recorded in an environmental release log. The pH and daily volume of the condensate will be noted.

## 5.2.2 Impacts on the biological environment

The project will not involve any site clearing. The proposed new plant and dryers will be built directly on the Barrette-Chapais site which is already cleared (see Appendix C). Furthermore, given that the site is already disturbed by the presence of wood piles, it is very unlikely that plant or wildlife species that are threatened or vulnerable or likely to become so would be present on the site. No impact is therefore expected on the plant or wildlife that may be present on the study site.

The pH of the condensate generated by dryer operations will be collected and treated, and the condensate's temperature will be controlled. Once treated, this condensate will be discharged into the site's storm drain, which flows to the east. The amount of time this water spends in the site's pipes will limit the discharge of contaminants (e.g., suspended solids) into the surrounding environment. The storm drain's ultimate receiving environment is Lac Sainte-Lucie which has limited potential for ichthyofauna species. As mentioned in Section 5.2.1, the pH of the water released into the environment will be treated by a neutralization system and the water's temperature will be lowered. Regular analyses will be performed to monitor these parameters and limit potential impacts. The project's anticipated impacts on the aquatic environment are therefore considered low.

## 5.2.3 Impacts on the human environment

The project's social impacts mainly revolve around maintaining jobs at the Barrette-Chapais site, which currently employs more than 350 workers as well as over 150 at its forestry operations. Rebuilding the thermal plant and building new dryers will therefore consolidate Barrette-Chapais operations and directly maintain the wood drying on the site as before the fire. The jobs of the plant's

personnel are at stake if construction does not start by January 4, 2024. The jobs of the people working at the 777 pellet plant also depend on the restart of the thermal plant. As shown in Section 3.2.3, forestry operations in the region are highly dependent on the Barrette-Chapais sawmill. Its closure could also result in the loss of jobs in the region. The Oujé-Bougoumou community is also dependent on sawdust from the Barrette-Chapais sawmill. In addition, a large quantity of bark from Barrette-Chapais is required for Chapais Énergie's operations (5%-10% of its needs). The region's economy is thus highly dependent on the normal operation of the Barrette-Chapais plant.

This project will also create opportunities for local Cree entrepreneurs. During construction, special attention will be paid to employing companies from the region, including companies owned by the Cree of Waswanipi, Ouje-Bougoumou and Mistissini. These impacts will be reflected in employment and staff development opportunities.

The noise issue is marginal insofar as the industrial site is located several kilometres from the nearest houses in Chapais.

Moreover, the rebuilding of the plant will not increase the tree harvest on the territory; it will simply restore drying operations at the Barrette-Chapais site as before the fire.

Barrette-Chapais discussed the project with the Chief of the Ouje-Bougoumou community. As a result, the Ouje-Bougoumou community has no objections to the project but rather wholeheartedly supports it (see Section 4).







## 6 Greenhouse Gas and Other Atmospheric Gas Emissions

The new thermal plant and dryers will emit (mainly biogenic) greenhouse gases into the atmosphere. Since the thermal plant is fueled by bark, the greenhouse gases produced come from biomass and are considered almost entirely biogenic.

As already mentioned, GA Techno Environnement prepared a sampling report on this aspect in 2022. This sampling at the Barrette-Chapais thermal plant's biomass boiler measured GHGs and particulate atmospheric emissions. According to the CAR, section 75, a new boiler with a rated capacity of 9.9 MW must not exceed a particle emission limit of 150 mg/m<sup>3</sup>R. Based on the 2021 sampling program, the former thermal plant boiler met this standard (< 82 mg/m<sup>3</sup>R of dry gas).

Barrette-Chapais is required to submit data annually to the National Pollutant Release Inventory (NPRI). According to the 2021 report for the entire Barrette-Chapais site, the contaminant releases to the atmosphere were composed of VOCs, particulate matter, methanol, carbon monoxide and NOx. The data for 2021 as well as the emitting sources for the Barrette-Chapais sawmill are shown in Table 6 below.

**Table 6: Data from the National Pollutant Release Inventory (NPRI)**

Substance	CAS number	Units	Source	Stack or Periodic	Fugitive emissions	Total
VOCs	NA - M16	tons	Dryers	-	89,854	89,854
Total particulate matter	NA - M08	tons	Several sources	36,098	-	36,098
Methanol	67-56-1	tons	Dryers	-	14,195	14,195
Carbon monoxide	630-08-0	tons	Thermal plant	124,837	-	124,837
Nitrogen oxides (expressed as nitrogen dioxide)	11104-93-1	tons	Thermal plant	74,616	-	74,616
PM10 - Particulate Matter <= 10 micrometers	NA - M09	tons	Several sources	19,821	-	19,821
PM2.5 - Particulate Matter <= 2.5 micrometers	NA - M10	tons	Several sources	14,955	-	14,955

Source: NPRI 2023

Since the Barrette-Chapais facility’s GHG emissions exceed the threshold of 10,000 tons of CO<sub>2</sub> equivalent, they are also subject to the *Regulation respecting the mandatory reporting of certain emissions of contaminants into the atmosphere*. According to the 2021 report on the facility, the total amount of GHGs including CO<sub>2</sub> attributable to biomass for the entire site is 83,744 t CO<sub>2</sub> eq., of which 76,744 t are attributable to biomass combustion (Table 7).

**Table 7: Data from the Québec Air Emission Inventory (IQEA)**

Name of company	Name of establishment	Municipality	Total GHGs including CO <sub>2</sub> attributable to biomass (t CO <sub>2</sub> eq. )	Total CO <sub>2</sub> attributable to biomass and biofuel combustion (t CO <sub>2</sub> eq. )	Total CO <sub>2</sub> attributable to the use of biomass and biofuels for purposes other than combustion (t CO <sub>2</sub> eq. )	Total GHGs excluding CO <sub>2</sub> attributable to biomass (t CO <sub>2</sub> eq. )
Barrette-Chapais Ltée	Chapais sawmill	Regional Government of Eeyou Istchee James Bay	83,744	76,744	0	7,000

Source: IQEA, 2022

After the new thermal plant and dryers have been built, the wood will be dried directly on the site instead of at the current site in Lac Saint-Jean. Transportation consisting of more than 200 truckloads per week will be eliminated, thereby reducing GHG emissions compared to the current situation. This GHG reduction is estimated at more than 65 tons of CO<sub>2</sub> equivalent per week or more than 3,000 tons for 2023.

Other GHG-generating activities within the project are:

- trucking equipment and transportation materials (mobilization and demobilization)
- use of heavy machinery (mechanical shovels etc.) at various stages of project implementation
- trucking various hazardous and non-hazardous residual materials as well as both contaminated and clean soils

GHG emissions related to these infrastructure rebuilding activities are considered negligible.

Since the new thermal plant will be of the same rated capacity as the previous one, will not increase annual production, and will use the same equipment as before, air quality impacts will be comparable

to the pre-project impacts. Although GHG-generation impacts are considered marginal, the following mitigation measures will be implemented to limit GHG emissions:

- regular maintenance of equipment, as required by the supplier, to reduce sources of air contaminants and GHG emissions
- no machinery idling on the site unless required

The following measures will also be implemented to monitor emissions of other air contaminants:

- a sampling program to assess air contaminant emissions as required by the CAR, section 86
- preparing the mandatory annual report concerning certain air contaminant emissions (including VOCs and GHGs) and submitting this report to the MELCCFP
- reporting contaminant emissions for VOCs and other atmospheric contaminants to the NPRI.





# 7 Other Relevant Information

There is no other relevant information to enhance the understanding of the mandate.





## 8 Déclaration et signature

**Je déclare que :**

*1° les documents et renseignements fournis dans ce formulaire de renseignements préliminaires sont exacts au meilleur de ma connaissance.*

*Toute fausse déclaration peut entraîner des sanctions en vertu de la LQE. Tous les renseignements fournis feront partie intégrante de la demande et seront publiés sur les sites Web du Comité d'évaluation (COMEV) ou de la Commission de la qualité de l'environnement Kativik (CQEK) ainsi qu'au Registre des évaluations environnementales.*

Prénom et nom : Benoît Barrette, président, Barrette-Chapais Itée.

Signature :

Date :

*3 mai 2023*







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