

Executive Summary

The Project involves the development of a wind farm comprising five or six wind turbines as well as a reserve location, for a total of seven potential wind turbine locations. The Project further includes all infrastructure needed to operate the wind farm: access roads, collector system, meteorological mast, and substation (see attached site layout).

The Project's proposed configuration is an optimal wind energy-harvesting scenario. Des Cultures Renewable Energy L.P., the Proponent, has completed a detailed stress analysis to ensure compliance with the applicable legislation and regulations and to minimize environmental impacts through effective and appropriate Project planning.

The Proponent has yet to select the manufacturer that will supply the Project's wind turbines. Various options are still being assessed, and a wind turbine model is expected to be selected in the coming months. It was agreed, as part of this environmental impact assessment, to analyze a scenario for the layout that uses a wind turbine model whose features are potentially the harshest in terms of environmental impact: tower height, blade length, required work space, noise emission level, etc.

The Project's study area covers approximately 24 km². It is located south of the St. Lawrence River and covers a portion of the territory of the RCM of Jardins-de-Napierville, in the Montérégie administrative region. All Project components (wind turbines and access roads) are located within the municipalities of Saint-Rémi and Saint-Michel.

A maximum area of 25,455 m² has been allocated for each wind turbine installation site. Once a wind turbine is fully erected, the work area will be resized to maintain a maximum permanent area of 180 m². Areas not required will be restored to their original condition. For agricultural land, the topsoil will be adequately put back in order to promote the resumption of farming and reach previous yields.

Access roads for the various wind turbine sites will be positioned in line with the direction of the existing agricultural roads or follow current geographical boundaries as closely as possible (lot lines). The existing roads that will be used are agricultural roads that allow farmers to access their properties. These roads will be used to build the Project and will be reconfigured because they do not meet the heavy transport standards required for wind farm development. Part of the collector network will be built within the proposed access road rights-of-way. The remainder will be aligned, to the extent possible, with the back of land lots and alongside the bounds of parcels of land in order to reach the portions that run along access roads. This will limit impact on the environment.

Activities associated with the operations phase are less extensive and mainly relate to component maintenance and replacement where necessary. Maintenance will include lubricating equipment, checking and calibrating electrical and mechanical components, and conducting wind turbine component operational diagnostic and wear tests.

The Project will be completed in the summer of 2021, and will start to supply electricity no later than December 1, 2021.

Overall Project cost is estimated at some \$70 million. According to the Proponent, the Project will bring five (5) to eight (8) million dollars in economic benefits to the Montérégie region. It is expected that Project construction will create 40 to 50 jobs over a period of about 12 months. However, more than a hundred workers may be on site during the peak of construction. The Proponent intends to

hire local and regional workers, when qualification and cost are equivalent. The Project is expected to create two (2) to four (4) wind farm maintenance and operation jobs.

The Proponent places a particular focus on relations with the communities affected by the development and the implementation of its projects. Regardless of the project, the Proponent seeks to identify all stakeholders in the early stages and to meet with them to share information on the Project and give them the opportunity to express their concerns. To this end, meetings were held with landowners, citizens of the municipalities of Saint-Rémi and Saint-Michel, and the Kahnawà:ke Mohawk community as well as with various municipal stakeholders and public agencies.

In developing the Project, the Proponent will put in place mitigation measures to mitigate or control potential environmental impacts in order to seamlessly incorporate the Project into the environment.

According to an analysis of anticipated impacts on the various physical, biological and human components of the environment and the application of mitigation measures, the Project as a whole will have few residual negative impacts and such impacts will mostly be low in magnitude.

Transportation and traffic during the construction and dismantling phases may affect air quality by generating dust. Speed limits for travel to the worksites and the use of BNQ-certified (Québec standards bureau) dust suppressants will limit fine particulates in the air. Access road construction has been planned so as to maximize the use of existing roads when the wind farm is developed. Water crossings have been limited to three (3) and will only apply to intermittent watercourses. Natural drainage modifications that might arise will be effectively controlled by all proposed general mitigation measures and by applying recognized standards. Residual impact on air and groundwater quality is non-material.

Very few trees – 0.06 ha at the most – will be felled for Project development work, as most of the implementation sites and wind turbine access roads are in a non-forested area. The vegetative components will not be affected by the implementation of the collector network because it will be buried beneath road rights-of-way. Furthermore, construction is not expected to affect special-status plant species.

The residual impact of construction and dismantling work will cause temporary disturbances for fauna due to the presence of workers and machinery and minor wildlife habitat modifications. These impacts are deemed non-material. Indeed, the sites affected by construction work are essentially agricultural and have no sensitive or critical habitat. Intermittent watercourses are the only watercourses in the area investigated.

Once the wind turbines are in operation, they could possibly cause deaths in bird and bat populations in this sector. However, the residual impact on bird fauna and chiroptera is deemed non-material in light of available data on deaths due to wind farms in Québec and the results of bird mortality monitoring at the Montérégie Wind Farm that was commissioned in 2012.

Project construction and operation will have a positive residual impact on socioeconomic conditions in the Montérégie region, as jobs will be created and significant investments will be made.

The residual impact on tourism and hunting and fishing in this sector is assessed as being not significant due to the measures that will be taken and given that these activities are less intense in the affected sector.

Farming in this sector of Montérégie will be partially affected by construction work and wind farm operation. Infrastructure development will affect 24.93 ha, or 0.19% of the cultivated areas in the study area. This will decrease to only 3.08 ha, or 0.02% of the cultivated areas in the study area during operation.

Given the situation as outlined above and considering the application of specific mitigation measures, residual impact on farming is considered non-significant. These areas can be farmed again once the wind farm is dismantled.

The residual impact on the road network is also non-significant, as the Proponent is committed to repair all damage that may be caused by machinery and truck traffic.

The wind turbines will be visible from certain observation sites and will therefore have a visual impact. Since the Project is located in an agricultural setting, it directly affects observers within the agriculture/forestry units and some road corridors. Impact will be greatest on the agroforestral landscape because of its nature and aesthetic qualities. The application of integration measures and the Project's distance from residences are elements that generally help limit the magnitude of the impact on the landscape.

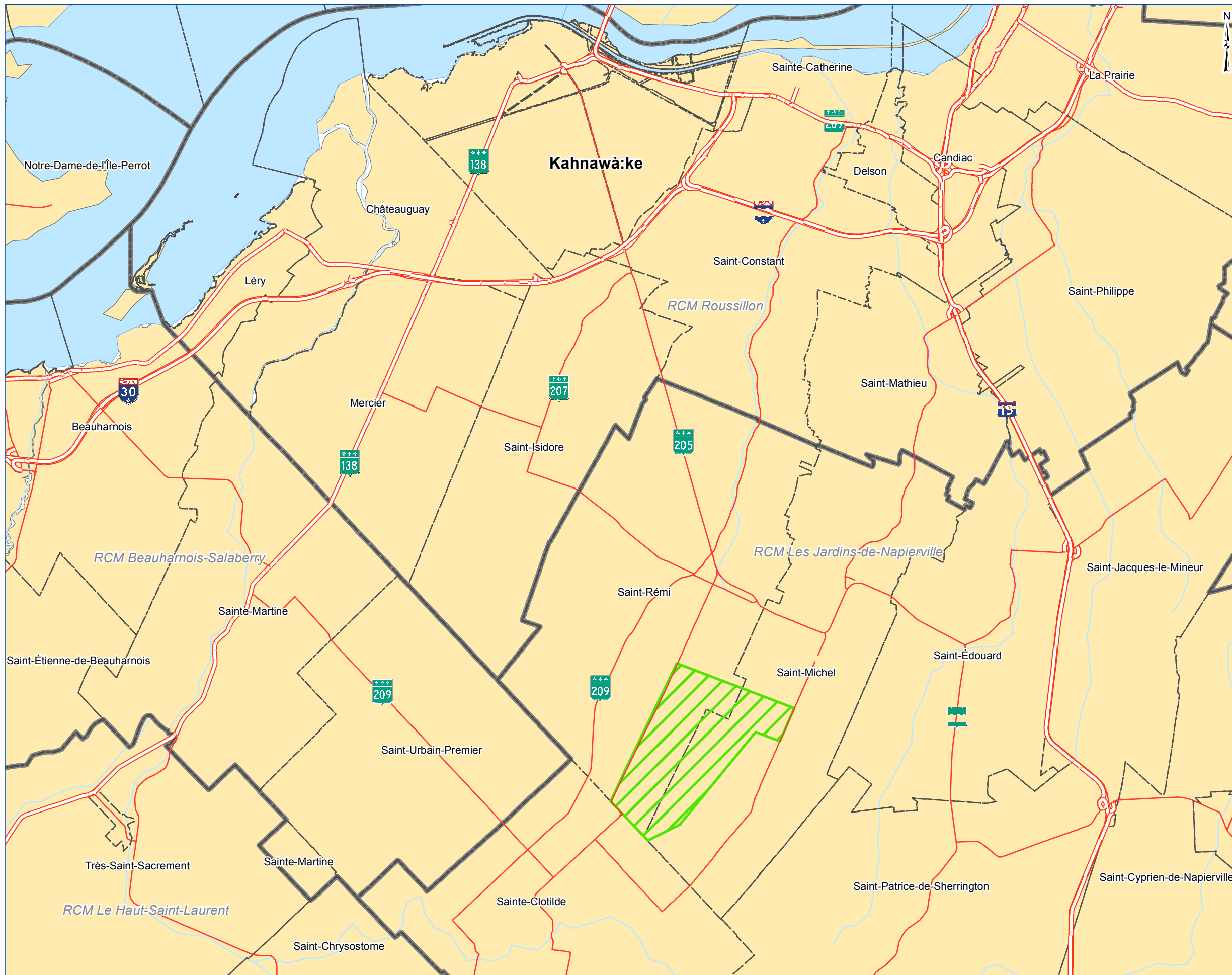
Construction and dismantling could generate a one-time temporary increase in ambient noise levels. Once the wind turbines are in operation, they may affect this sector's ambient noise. The intensity of the Project's anticipated impact on ambient noise was assessed by taking into account the initial noise level (including noise emissions generated by the operation of the Montérégie Wind Farm), the projected long-term noise level, and the characteristics of the environment. The results of this analysis show that the MELCC's noise criterion (Ministère de l'Environnement et de la Lutte contre les changements climatiques) is met at all assessment points. The residual impact is therefore considered non-significant.

Current positioning of the Project's wind turbines avoids potential conflicts with the microwave links crossing the wind farm and also protects various mobile radio systems in the study area. Consequently, the wind farm's commissioning will not have a significant impact on telecommunications systems.

Like all large-scale wind power projects, the Des Cultures Wind Farm will undergo regular environmental monitoring during the construction, operation and dismantling phases. Monitoring will focus in particular on compliance with environmental legislation and regulations and on the implementation of the Proponent's various commitments.

An emergency plan, to be finalized at the time of application for ministerial authorization, will make it possible to respond adequately to an accident or a failure. The plan will outline the main actions envisaged to deal with such situations, as well as emergency communication mechanisms. It will clearly set out the connection with municipal authorities, and if applicable, its interaction with the plan of the municipalities involved and the appropriate government agencies.

The Proponent has identified the regular monitoring required for operating a wind farm and therefore proposes four types of monitoring: bird and bat mortality monitoring, agricultural soil monitoring, landscape monitoring, and ambient noise monitoring. A complaints log will also be maintained for any complaints that may be filed by citizens or any other impacted parties.



PROJECT LOCATION



Des Cultures Wind Project

Map 1.1 Project area location

PROJECT

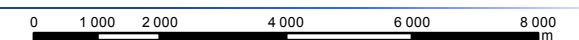
- Project area

TERRITORY

- Provincial road
- Local road
- Municipal boundary
- Regional county municipality (RCM)

NATURAL ENVIRONMENT

- Watercourse
- Waterbody



Projection NAD 1983 MTM 8

Sources : Gouvernement du Québec, CIC 2013, Kruger Énergie, Activa Environnement

Map prepared by

Véronique Bisailon

Véronique Bisailon, Forest engineer
 Project : E1810-123/ 13063
 5 November 2018













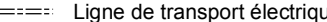





Projet éolien Des Cultures

Carte 1.1 Localisation de la zone d'étude et configuration du projet

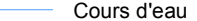




PROJET

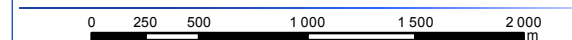
-  Éolienne
-  Mât de mesure de vent
-  Poste de raccordement
-  Réseau collecteur proposé
-  Route d'accès proposée
-  Zone d'étude

TERRITOIRE

-  Bâtiment
-  Cadastre
-  Ligne de transport électrique
-  Route provinciale
-  Route locale
-  Chemin non pavé
-  Limite municipale
-  Municipalité régionale de comté (MRC)

MILIEU NATUREL

-  Cours d'eau
-  Cours d'eau intermittent
-  Étendue d'eau
-  Milieu humide
-  Végétation



Projection NAD 1983 MTM 8

Sources : Gouvernement du Québec, CIC 2013, Kruger Énergie, Activa Environnement

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Projet : E1810-123/ 13065
15 novembre 2018

