

# CARBONE BOREAL

## UNIVERSITÉ DU QUÉBEC À CHICOUTIMI

### **i** PROJECT TYPE

Carbon sequestration from forestry

### **?** PROJECT DESCRIPTION

Experimental forest plantations of are established in poorly regenerated areas (e.g. after successive forest fires) of the Canadian Boreal Forest or on portions of agricultural wasteland unsuitable for cultivation. Plantations are ~20 ha and composed mainly of black spruce and jack pine.

**Important Note:** Research indicates that reforestation at higher latitudes and in boreal forests contributes to a decrease in surface albedo and can cause an increase in net-absorbed radiation and localized warming. The magnitude of this impact, and the trade-off between carbon sequestration (above-ground and soils) and albedo at specific latitudes and locations, requires additional research. Such topics are included in Carbone Boreal's research goals. Resources, such as this information sheet, will be updated as information/research becomes available.

### PREREQUISITE CRITERIA

*Dedicated applied student research teams in the School of Environment and the Faculty of Management defined prerequisite criteria that offset projects had to meet to be considered by the McGill Offset Selection Committee.*

#### **Do No Harm**

This project entails reforesting areas of public forestlands and unusable agricultural wastelands. Protection from commercial harvesting activities is included in the project design. Farmers participating in the agricultural project are compensated at \$1 per tree.

#### **Additionality**

The baseline scenario assumes that chosen locations would remain un-forested indefinitely, and would not be re-forested without human intervention. Existing programs and incentives from provincial or federal authorities do not result in reforestation of these areas. In the project scenario, funds and benefits from collaboration with UQAC and other parties allow for the reforestation of these areas and for their long-term management and protection. The compensation provided to farmers incentivizes reforestation and enables management.

#### **Leakage**

There is no leakage anticipated with project implementation.

#### **Unique Ownership**

Credits are registered on the Canadian Standards Association (CSA)'s GHG Clean Projects registry, which assigns a unique serial number to each tCO<sub>2</sub>e offset. A registry of sold credits and related information is hosted on the program website.

#### **3rd Party Verification**

The program is verified by the Bureau de normalization du Québec (BNQ).

#### **Accounting Standard**

Project impacts are calculated according to the International Standards Organization (ISO)'s protocol, "ISO 14064-2: Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancement".

## TO PURCHASE

<http://carboneboreal.ugac.ca/offset-online/>

## PRICE

\$28.00 per tCO<sub>2</sub>e (forest project) or \$35.00 per tCO<sub>2</sub>e (agricultural project)

## NOTES

You can enter a pre-calculated emissions total (e.g. from the [McGill Carbon Calculator](#) or from support provided by [McGill's Climate Officer](#)) or use their calculator to determine emissions from a number of different activity types (e.g. transport, food, electronics or events).

## PROJECT LOCATION

Québec, Canada



## ADDITIONAL CRITERIA

The Offset Selection Committee—composed of students, faculty and staff—developed additional criteria for the offsets. These additional criteria helped the Offset Selection Committee recommend offset projects that fit McGill's mission and would help contribute to the overall sustainability goals of the University.

### Review Process & Frequency

Plantations are verified for compliance with ISO 14064-2 using the verification framework of "ISO 14064-3: Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions" to a reasonable level of assurance. A 3% materiality threshold is applied for verification. Verification is conducted periodically by BNQ and verification reports are publicly available. The most recent report, from 2018 for the period 2008–2016, confirmed that GHG assertions were fair, in line with calculations, and in compliance with ISO 14064-2.

### Accuracy & Ease of Measure

Carbon sequestration from afforestation is based on life cycle carbon accounting of black spruce plantations. Relevant sources, sinks and reservoirs are included. The project features modelling of these areas in forestry context and relies on the use of average sequestration rates per species extrapolated to the plantation area and a 70-year timeframe. Ease of measure is moderate to difficult.

### Scalability

Average scale. As of 2018, a total of 574 hectares have been planted with over 1,100,000 trees.

### Permanence

Ensuring permanence is a critical component of project design, as is the case with any forestry project, and so a number of important steps are included. Plantations are distributed to decrease losses from wildfires and pests, and a backup – of buffer – plantation network was established. The plantations are legally designated as "experimental forests", which provides long-term protection from human activities aside from research. Annual verification has confirmed that there have been no material reversals or losses.

### Co-Benefits

The plantation network is fully protected from commercial harvesting and has been designed to prioritize native trees species with natural resistance to fire and/or pests. Increasing forest cover provides ecosystem benefits. The program includes a prompt for participants to be "Climate Positive" – as opposed to carbon neutral – by purchasing twice the necessary offsets. Offset contributions are donations that are eligible for tax receipts.

### Alignment with McGill Community

The project focuses on providing research and educational opportunities within Québec in both the forestry and agricultural sectors. By supporting this project, McGill promotes support of other Québec-based higher education institutions and carbon sequestration efforts within Québec.