**MEMORANDUM**

To: Ministry of Northern Development, Mines, Natural Resources and Forestry

From: Greg Nuttall, CEO, Mark Kzyonsek, VP Engineering and Construction, William White, COO, Woodland Biofuels Inc.

Date: March 14, 2022

Re: Carbon Capture and Sequestration in Ontario

Woodland Biofuels is examining the potential for developing a renewable fuels plant in Sarnia, Ontario using construction and demolition waste as its feedstock. We are looking to make a final investment and location decision in Q4 2022/Q1 2023. Of critical importance to that decision is the viability of a Carbon Capture and Storage (CCS) system. To choose Ontario as the location for the plant Woodland Biofuels needs the government of Ontario’s support on expediting the establishment of a CCS system in Ontario and, in particular, Sarnia.

Woodland Biofuels has been working with the Sarnia-Lambton Economic Development Partnership and other interested parties to review the value, need and obstacles to enabling safe and permanent sequestration of carbon dioxide (CO2) in Ontario with the goal of positioning the province as a CCS Leader. We support the recommendations of the group:

* Expedite the consultation and amendments necessary to fully enable and support CCS in Ontario to take advantage of Ontario’s unique geology, the environmental imperative and business case for CCS and the growing regulatory momentum in this space
* Amend the relevant legislation and regulations to remove the barriers to CCS in Ontario
* Establish a streamlined approvals regime for new CCS projects to provide certainty to investors and emitters
* Create a regulatory framework to encourage commercial CCS projects
* Ensure scalable and cost-effective CCS infrastructure development

These recommendations, if implemented quickly, will position Ontario as a CCS leader with Ontario companies having a sustainable source of environmental and competitive advantage.

**The Impact of CCS on Site Selection**

Looking at Woodland’s renewable fuel project specifically, the potential resulting fuel streams include carbon negative Hydrogen, Renewable Natural Gas (RNG), methanol and ethanol (the “Carbon Negative Fuels Project”). The Project is expected to create 324 full time, permanent jobs. Whether the fuel streams generated are carbon negative or simply low carbon depends entirely on the availability of CCS in Ontario. In addition to the environmental benefits of carbon negative energy products, there are significant revenue implications - in today’s world carbon negative energy is more valuable, generating higher revenue. The availability of CCS is therefore an important factor in determining the location of a plant.

Sarnia, Ontario is our first choice for the location of the Carbon Negative Fuels Project. Our demonstration plant has operated in Sarnia for years and so we are very familiar with its many advantages, including world class energy infrastructure, established Woodland operating partners, and a deep pool of qualified labour. The one question mark is the availability of CCS. Woodland’s financial investors require us to locate our plants where CCS is available, in order to maximize their economic performance. Woodland needs the Ontario government to expedite the establishment of CCS in Ontario to enable us to choose Sarnia as the location for the Carbon Negative Fuels Project.

Each of Woodland’s carbon negative products can be sold to create value both as a commodity as well as through various environmental attributes and crediting markets. Credits can be generated through the Clean Fuel Standard[[1]](#footnote-1) (CFS) in Canada, through existing markets such as the Low Carbon Fuel Standard in British Columbia[[2]](#footnote-2) and California[[3]](#footnote-3) (BCLCFS and LCFS respectively), and through the Renewable Fuel Standard[[4]](#footnote-4) (RFS) in the United States.

Carbon intensity (CI) modelling was done for each of Woodland’s four potential products. Each case also includes the base CI without sequestration as well as the CI with a carbon sequestration scheme.

In all cases, the products would be classified as low carbon fuels as they are below their contemporary fossil fuel alternatives. However, the impact of sequestration is significant, resulting in negative carbon intensity. Applying sequestration methods to the captured CO2 provides a negative CI score in every case.

In summary, the use of Carbon Capture and Storage for emissions plays a significant role in the final value proposition of the Project because carbon negative products are more valuable due to their environmental attributes and the credits they generate. Woodland Biofuels’ financial investors are therefore interested in the viability of a CCS system in Ontario prior to making their final investment commitment. Woodland needs the Ontario government’s support on expediting a CCS system in Ontario to enable us to choose Sarnia for the Carbon Negative Fuels Project, bringing 324 full time, permanent jobs to Ontario and establishing the province as a global leader in carbon negative energy production.

1. <https://gazette.gc.ca/rp-pr/p1/2020/2020-12-19/html/reg2-eng.html> [↑](#footnote-ref-1)
2. <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/394_2008> [↑](#footnote-ref-2)
3. <https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard> [↑](#footnote-ref-3)
4. <https://ecfr.federalregister.gov/> [↑](#footnote-ref-4)