June 04, 2024

Verde highlights potential to reduce the carbon footprint of Brazil's biofuel supply chain

The replacement of KCl fertilizers with K Forte® could annually avoid the emission of up to 300 thousand tons of CO_2, generating annual Brazilian Decarbonization Certificates equivalent to C$8.5 million

Singapore. Verde AgriTech Ltd (TSX: "NPK") ("**Verde**" or the "**Company**") is pleased to announce that its potassium multinutrient specialty fertilizer, K Forte® (the "**Product**"), has a significantly lower carbon footprint than traditional potassium chloride ("**KCl**") fertilizer, according to the calculation tool developed by the Brazilian government, RenovaCalc. The emission factor in Renovacalc applied to Potassium Chloride, with 60% K_2O mass content, is set at 0.455 tons of carbon dioxide equivalent per ton of K_2O ("t CO_2e/t K_2O"), sourced from the Ecoinvent database.[1] Following Renovacalc's criteria and based on K Forte®'s Life Cycle Assessment ("**LCA**"), the emission factor of the Product is set at 0.0655 t CO2e/t K_2O.[2,3] Therefore, the substitution of KCl fertilizer with Verde's Product results in a reduction in emissions of 0.39 t CO2e/t K_2O, which represents an 85.6% reduction of the carbon footprint for K_2O within sugarcane and corn ethanol production in Brazil.

Brazil has approximately 3.3 million hectares of sugarcane crops and 1.1 million hectares of corn dedicated to biofuels.[4] It takes 20 kg of the Product per ton of sugarcane and 10 kg of the Product per ton of corn, to replace KCl in K_2O supply.

"Brazil's dependence on potash imports, primarily from Canada, Russia, and Belarus, which account for over 95% of its total consumption, has significant environmental impacts. Given that agriculture contributes about 10-12% of the world's greenhouse gas emissions, the need for mitigation initiatives within corporate

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[1] Please see the "RenovaCalc" section for further information on the calculation assumptions.

[2] Considers K Forte®'s "cradle-to-gate" emissions, in accordance with RenovaCalc's parameters. RenovaCalc's standardized lifecycle emission factors encompass all emissions from the extraction of raw materials through to the completion of production, not including shipping emissions. For biofuel distribution and usage, RenovaCalc relies on official and sectoral statistics and a tool for estimating greenhouse gases for intersectoral sources. With these inputs, RenovaCalc calculates the Environmental Efficiency Score ("EES") of produced biofuels. Please see the "RenovaCalc" section for further information on the calculation assumptions.

[3] For K Forte®, containing 10% K2O, a tenfold increase in application is considered to match the mass equivalent of K2O used in KCl, achieving equivalence to 1 kg of K2O.

[4] Assumptions: 31.193 million liters of ethanol produced per year (Source: Sugarcane and Bioenergy Observatory - UNICAdata). Dosages of 100 and 200 kg of K2O per hectare, respectively, for corn and sugarcane. Assuming the average yield of 4,025 liters per hectare for corn and 8,100 liters per hectare for sugarcane. K Forte (10% K2O) and KCl (60% K2O).

value chains is critical.[5] Our Product not only provides a high-quality source of potash and other nutrients but also enhances soil biodiversity due to its salinity and chloride-free properties. In addition, the replacement of KCl with K Forte® in biofuel agricultural production could significantly contribute to a more environmentally responsible supply chain", stated Cristiano Veloso, Verde's Founder and CEO.

The substitution of KCl fertilizer with Verde's Product results in immediate carbon reductions and thus bolsters Verde's sales value proposition, potentially strengthening Product sales among farmers who track their emissions to meet decarbonization goals.

Brazilian National Biofuels Policy and RenovaCalc Parameters

The Brazilian National Biofuels Policy ("**RenovaBio**") is a federal government initiative formally established by Law 13.576/2017.[6] RenovaBio aims to support Brazil's commitments under the Paris Agreement within the United Nations Framework Convention on Climate Change. The program focuses on enhancing energy efficiency and reducing greenhouse gas emissions across the production, marketing, and use of biofuels through lifecycle assessment mechanisms. Additionally, it seeks to promote the expansion of biofuel production and use within Brazil's energy matrix, ensuring a consistent fuel supply.

RenovaBio's guiding principle for achieving its objectives is to incentivize fuels that have a lesser impact on global warming, specifically those that result in lower lifecycle greenhouse gas ("**GHG**") emissions, such as biofuels.

The policy operates through the following steps:[7]

1. Establishing of long-term national goals (over 10 years) for reducing GHG emissions in the Brazilian fuel matrix,
2. Breaking down of these national targets into individual mandatory targets for fuel producers,
3. Assessing the performance of fuel producers through RenovaCalc. The tool employs an attributional approach for the lifecycle assessment (LCA) of biofuels, encapsulating the "well-

[5] BRENTRUP, F.; HOXHA, A.; CHRISTENSEN, B. Carbon footprint analysis of mineral fertilizer production in Europe and other world regions. [s.l: s.n.].

[6] To meet the obligations assumed by Brazil at the United Nations Conference on Climate Change 2015 (COP 21), the Brazilian National Biofuels Policy (RenovaBio) was implemented in 2017 by Law No. 13,576/2017, with additional regulations established by Decree No. 9,888/2019 and Ordinance No. 56 of December 21, 2022 issued by the Brazilian Ministry of Mines and Energy. For further information, please see: https://www.gov.br/mme/pt-br/assuntos/secretarias/petroleo-gas-natural-e-biocombustiveis/renovabio-1/renovabio-ingles

[7] Sources: a) ANP (2018). RenovaBio - Strategic Guidelines - Proposal submitted for public consultation.
b) ANP (2018). RenovaBio – Next Steps in Regulation. 40th Ordinary Meeting of the Sugar and Alcohol Production Chain Sectoral Chamber.
c) Official Gazette of the Union, National Energy Policy Council – Resolutions No. 5, June 5, 2018 and Resolution No. 758, November 23, 2018.
d) Embrapa (2018). Technical Note – RenovaCalcMD: Method and Tool for Accounting the Carbon Intensity of Biofuels in the RenovaBio Program.

to-wheel" scope which assesses the environmental impact from fuel extraction to its end use in vehicle propulsion. The tool utilizes inventory data from the Ecoinvent v.3.1 database for upstream agricultural processes, prioritizing inventories specific to Brazil (BR), global averages (GLO), and, when unavailable, data from the 'Rest of the World' (RoW), which is an exact copy of the GLO dataset with adjusted uncertainty. For biofuel distribution and usage, RenovaCalc relies on official and sectoral statistics and a tool for estimating greenhouse gases for intersectoral sources. With these inputs, RenovaCalc calculates the carbon intensity (CI) of produced biofuels using standardized lifecycle emission factors.

4. Translating biofuels's carbon intensity into an Environmental Efficiency Score ("**EES**").
5. Certifying fuel production based on each producer's EES, leading to the generation of Biofuel Decarbonization Credit Certificates ("CBIOs" from the Portuguese "*Créditos de Descarbonização DE Biocombustíveis*"), awarded to producers of renewable biofuels based on the volume of production and the sustainability of their processes. CBIOs are digital financial securities held by financial institutions authorized by the Brazilian National Agency of Petroleum, Natural Gas and Biofuels ("**ANP**"), representing the reduction of one ton of carbon dioxide emissions, verified by RenovaCalc through each fuel's lifecycle analysis.
6. These certificates can then be sold in the financial market, primarily to fossil fuel distributors who are mandated under Brazilian law to offset a portion of their carbon emissions by purchasing CBIOs.[8] This certification is conducted by auditors accredited by the ANP.

Based on Brazil's potash consumption for sugarcane and corn for ethanol production, the use of K Forte® as a potash source could potentially avoid the emission of up to 300,429 tons of CO_2 per year,[9] due to the reduction in emissions associated with KCl production from 350,912 tons of CO_2 to 50,483 tons associated with K Forte® production. Given the average price of CBIOs in the last 6 months, at C$28.20,[10] this substitution could generate the equivalent to C$8.5 million in CBIOs annually.[11]

[8] Although there is no restriction on the type of buyer eligible to purchase CBIOs, it should be noted that, according to Brazilian Law No. 13,576, it is mandatory for fossil fuel distribution companies to buy CBIOs to meet their decarbonization targets.

[9] Assumptions: 31.193 million liters of ethanol produced per year (Source: Data from the Sugarcane and Bioenergy Observatory - UNICAdata - which provides historical data on ethanol production by raw materials, sugarcane and corn for the 2022/2023 harvest). Dosages of 100 and 200 kg of K2O per hectare, respectively, for corn and sugarcane. Assuming the average yield of 4,025 liters per hectare for corn and 8,100 liters per hectare for sugarcane. Demand for 7.71 million tons for K Forte (10% K2O) and 1.28 million tons for KCl (60% K2O).

[10] CBIOs average price from December 01, 2023 to May 31, 2024 was 102.92 Brazilian Reais ("**R$**"). Source: B3. Currency Exchange Rate: C$1.00 = R$3.65.

[11] R$30.9 million. Currrency Exchange Rate: C$1.00 = R$3.65.

Replacing KCl with the Product in a standard biofuel production plant[12] would result in an approximate 0.8% increase in the Environmental Efficiency Score of the production chain.

"The potential annual avoidance of CO_2 emissions is equivalent to taking approximately 65,000 cars off the road for an entire year,[13] or the amount of CO_2 absorbed by approximately 5 million tree seedlings grown over ten years. This represents a tremendous impact," commented Mr Veloso.

Brazilian Agribusiness Decarbonization

Decarbonization in agriculture is becoming an ever more relevant topic. Brazil is advancing its agenda for reducing GHG from agriculture through the "Adaptation and Low Carbon Emission Plan in Agriculture - ABC+" (2020-2030). This initiative is designed to support Brazil's commitment to the Paris Agreement by facilitating climate change adaptation and promoting sustainable landscape management.[14]

Energy agriculture presents a pivotal opportunity to transform Brazilian agribusiness as global economic growth fuels increased energy demand. Ethanol and biodiesel, as alternatives to fossil fuel energy, are gaining traction. Produced from renewable resources such as sugarcane and forest biomass, these biofuels are a step towards sustainability. Sugarcane ethanol, noted for its exceptionally low carbon footprint, contributes significantly to Brazil's renewable energy matrix—accounting for 15.4% of the national energy matrix or 32% of all domestically offered renewable energy. This places Brazil (47.4%) well above the global average (14.1%) and the OECD developed countries (11.5%) in the adoption of clean and renewable energy. The sugarcane energy chain alone generates over US$100 billion in gross value, contributing roughly US$40 billion to Brazil's GDP, equivalent to about 2% of the national GDP.[15]

In Brazil, a 27% ethanol blend in gasoline has been legally mandated since 2015, making the country the world's second-largest ethanol producer. Ethanol, derived from both sugarcane and corn, can be used either in its hydrated form or mixed with gasoline (anhydrous ethanol), significantly aiding environmental preservation and air quality improvement by reducing GHG emissions by up to 90% compared to gasoline.[16]

RenovaBio sets annual decarbonization targets for the fuel sector to boost biofuel production and use in the nation's transport energy matrix. By 2030, RenovaBio aims to achieve more than a 10% reduction in

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[12] Standard profile for biofuel production: an option in RenovaCalc for biofuel producers or importers, which includes the technical parameters related to the production of energy biomass, pre-filled with data that reflects the average production profile in Brazil, with added penalties. Source: Official Gazette of the Union, ANP – Resolution No. 758, November 23, 2018.

[13] Based on the average car emitting about 4.6 tons of CO2 annually.

[14] Sources: https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/planoabc-abcmais and https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/planoabc-abcmais/abc/programas-e-estrategias

[15] Source: https://unicadata.com.br/listagem.php?idMn=158

[16] Source: Data report on the sugar energy sector in Brazil and its economic, environmental and social impacts (from Portuguese "*Fotografia do setor açúcar energético no Brasil e os benefícios econômicos, ambientais e sociais gerados*"), Brazilian Sugarcane Industry and Bioenergy Association (Unica).

GHG emissions within the Brazilian transport sector, significantly contributing to the national commitment of a 43% total GHG emission reduction.[17]

Internationally, similar initiatives to RenovaBio, such as the Low Carbon Fuel Standard (LCFS) of the California government and the Renewable Energy Directive (RED) of the European Union, have demonstrated success and longevity, with over a decade of implementation.

About Verde AgriTech

Verde Agritech is dedicated to advancing sustainable agriculture through the innovation of specialty multi-nutrient potassium fertilizers. Our mission is to increase agricultural productivity, enhance soil health, and significantly contribute to environmental sustainability. Utilizing our unique position in Brazil, we harness proprietary technologies to develop solutions that not only meet the immediate needs of farmers but also address global challenges such as food security and climate change. Our commitment to carbon capture and the production of eco-friendly fertilizers underscores our vision for a future where agriculture contributes positively to the health of our planet.

For more information on how we are leading the way towards sustainable agriculture and climate change mitigation in Brazil, visit our website at https://verde.ag/en/home/.

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Cautionary Language and Forward-Looking Statements

All Mineral Reserve and Mineral Resources estimates reported by the Company were estimated in accordance with the Canadian National Instrument 43-101 and the Canadian Institute of Mining, Metallurgy, and Petroleum Definition Standards (May 10, 2014). These standards differ significantly from the requirements of the U.S. Securities and Exchange Commission. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability.

This document contains "forward-looking information" within the meaning of Canadian securities legislation and "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995. This information and these statements, referred to herein as "forward-looking statements" are made as of the date of this document. Forward-looking statements relate to future events or future performance and reflect current estimates, predictions, expectations or beliefs regarding future

[17] Source: Brazilian Sugarcane Industry and Bioenergy Association (Unica)

events and include, but are not limited to, statements with respect to:

(i) the estimated amount and grade of Mineral Resources and Mineral Reserves;

(ii) the estimated amount of CO_2 removal per ton of rock;

(iii) the PFS representing a viable development option for the Project;

(iv) estimates of the capital costs of constructing mine facilities and bringing a mine into production, of sustaining capital and the duration of financing payback periods;

(v) the estimated amount of future production, both produced and sold;

(vi) timing of disclosure for the PFS and recommendations from the Special Committee;

(vii) the Company's competitive position in Brazil and demand for potash; and,

(viii) estimates of operating costs and total costs, net cash flow, net present value and economic returns from an operating mine.

Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives or future events or performance (often, but not always, using words or phrases such as "expects", "anticipates", "plans", "projects", "estimates", "envisages", "assumes", "intends", "strategy", "goals", "objectives" or variations thereof or stating that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved, or the negative of any of these terms and similar expressions) are not statements of historical fact and may be forward-looking statements.

All forward-looking statements are based on Verde's or its consultants' current beliefs as well as various assumptions made by them and information currently available to them. The most significant assumptions are set forth above, but generally these assumptions include, but are not limited to:

(i) the presence of and continuity of resources and reserves at the Project at estimated grades;

(ii) the estimation of CO_2 removal based on the chemical and mineralogical composition of assumed resources and reserves;

(iii) the geotechnical and metallurgical characteristics of rock conforming to sampled results; including the quantities of water and the quality of the water that must be diverted or treated during mining operations;

(iv) the capacities and durability of various machinery and equipment;

(v) the availability of personnel, machinery and equipment at estimated prices and within the estimated delivery times;

(vi) currency exchange rates;

(vii) Super Greensand® and K Forte® sales prices, market size and exchange rate assumed;

(viii) appropriate discount rates applied to the cash flows in the economic analysis;

(ix) tax rates and royalty rates applicable to the proposed mining operation;

(x) the availability of acceptable financing under assumed structure and costs;

(xi) anticipated mining losses and dilution;

(xii) reasonable contingency requirements;

(xiii) success in realizing proposed operations;

(xiv) receipt of permits and other regulatory approvals on acceptable terms; and

(xv) the fulfilment of environmental assessment commitments and arrangements with local communities.

Although management considers these assumptions to be reasonable based on information currently available to it, they may prove to be incorrect. Many forward-looking statements are made assuming the correctness of other forward looking statements, such as statements of net present value and internal rates of return, which are based on most of the other forward-looking statements and assumptions herein. The cost information is also prepared using current values, but the time for incurring the costs will be in the future and it is assumed costs will remain stable over the relevant period.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and risks exist that estimates, forecasts, projections and other forward-looking statements will not be achieved or that assumptions do not reflect future experience. We caution readers not to place undue reliance on these forward-looking statements as a number of important factors could cause the actual outcomes to differ materially from the beliefs, plans, objectives, expectations, anticipations, estimates assumptions and intentions expressed in such forward-looking statements. These risk factors may be generally stated as the risk that the assumptions and estimates expressed above do not occur as forecast, but specifically include, without limitation: risks relating to variations in the mineral content within the material identified as Mineral Resources and Mineral Reserves from that predicted; variations in rates of recovery and extraction; the geotechnical characteristics of the rock mined or through which infrastructure is built differing from that predicted, the quantity of water that will need to be diverted or treated during mining operations being different from what is expected to be encountered during mining operations or post closure, or the rate of flow of the water being different; developments in world metals markets; risks relating to fluctuations in the Brazilian Real relative to the Canadian dollar; increases in the estimated capital and operating costs or unanticipated costs; difficulties attracting the necessary work force; increases in financing costs or adverse changes to the terms of available financing, if any; tax rates or royalties being greater than assumed; changes in development or mining plans due to changes in logistical, technical or other factors; changes in project parameters as plans continue to be refined; risks relating to receipt of regulatory approvals; delays in stakeholder negotiations; changes in regulations applying to the development,

operation, and closure of mining operations from what currently exists; the effects of competition in the markets in which Verde operates; operational and infrastructure risks and the additional risks described in Verde's Annual Information Form filed with SEDAR in Canada (available at www.sedar.com) for the year ended December 31, 2021. Verde cautions that the foregoing list of factors that may affect future results is not exhaustive.

When relying on our forward-looking statements to make decisions with respect to Verde, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. Verde does not undertake to update any forward-looking statement, whether written or oral, that may be made from time to time by Verde or on our behalf, except as required by law.

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