

Rock Tech's Guben Converter Lithium Production Carbon Footprint is 30 Percent Lower than the International Energy Agency's Reported Average

24.05.2023 | [CNW](#)

- Fraunhofer UMSICHT conducted a Life Cycle Assessment (LCA) for battery-grade lithium hydroxide monohydrate (LHM) from Rock Tech's Guben Converter.
- The carbon footprint is calculated to be 10.5 kgCO₂-eq./kg LHM.
- The footprint could be reduced to 5.4 kgCO₂-eq./kg LHM through careful commercial selection of materials and energy sources.
- Rock Tech compared the results against an International Energy Agency (IEA) special report showing a carbon footprint for LHM from hard rock 30 percent lower than the average for LHM from hard rock.
- Beyond the scope of the LCA, upcoming Zero-Waste solutions will bring further emission-saving potential.

VANCOUVER, May 24, 2023 - [Rock Tech Lithium Inc.](#) (TSXV: RCK) (OTCQX: RCKTF) (FWB: RJIB) (WKN: A1XF0V) ("Rock Tech") is pleased to share the findings of a Life Cycle Assessment (LCA) for battery-grade lithium hydroxide monohydrate (LHM) from its planned conversion plant in Guben, Germany ("Guben Converter"). The study was carried out by the Fraunhofer Institute for Environmental, Safety, and Energy Technology ("Fraunhofer UMSICHT") in accordance with ISO 14040 (2006) par. 4.3 and ISO 14044 (2006) par. 6.2, and was then critically reviewed by DEKRA, an independent external expert. According to the LCA, the base case carbon footprint of battery-grade LHM from Guben is 10.5 kg per kilogram. It also shows the ability to considerably reduce the footprint to 5.4 kg CO₂-eq./kg LHM. When compared against an International Energy Agency (IEA) special report, Rock Tech's base case footprint for LHM is 30 percent lower.

Dirk Harbecke, Chief Executive Officer of Rock Tech, states, "We want to contribute to zero-emissions and battery electric mobility by accepting the challenge to reduce the environmental impact of our lithium hydroxide. The LCA shows that we and our partners have the power to bring about this change through commercial decisions."

The renowned German Fraunhofer UMSICHT has evaluated the "cradle-to-gate" environmental impact of battery-grade LHM at Rock Tech's Guben Converter, with an emphasis on the carbon footprint. The base case carbon footprint is projected at 10.5 kg CO₂-eq./kg LHM, encompassing all upstream emissions and an assumed distance of transit from Australia to Germany.

The main sources of emissions per 1 kilogram of LHM in the LCA scenarios were attributed to energy supply for the Guben Converter (4.3 kg CO₂-eq, average grid mix electricity, natural gas, and steam, excluding transport), mining and concentration of spodumene (3.2 kg CO₂-eq), and transportation and shipping of spodumene concentrate with 0.7 kg CO₂-eq.

When compared against the International Energy Agency's (IEA) special study on "The Role of Critical Minerals in Clean Energy Transition" (also see Table 1), Rock Tech's base carbon footprint is 30 percent lower. Furthermore, through mainly careful choice of materials and energy sources, Rock Tech Company has the ability to reduce emissions to 5.4 kg CO₂-eq./kg LHM, which could be compared to the estimated carbon footprint for LHM from brine in the IEA special report.

In the base case scenario, credits of -1.0 kg CO₂-eq./kg LHM are given to one by-product by applying the avoided burden principle. The assessment also shows different scenarios that could cut the emissions in half by commercial choice of suppliers alone or by optimizing the conversion process.

Changing from an average grid mix to exclusively renewable sources might reduce the footprint by more than 20% compared to the base case scenario. Spodumene mining also has a lot of potential for improvement. Considering of supplies from Rock Tech's Guben Converter, Ontario, Canada, or reduced emissions claimed by some existing Australian mining companies, might significantly lower the footprint.

The LCA did not take into account Rock Tech's ambitions² towards a zero-waste scenario because the exact quantification of by-products could not yet be determined clearly. Nonetheless, the targeted use of by-products remains a strategic priority that could

emission-saving potential beyond the scope of the present study. The same holds true when substituting natural gas with renewable energy. The measures will provide further considerable benefits in the future.

On behalf of the Board of Directors,?
Dirk Harbecke
Chairman?& CEO

¹ To effectively avoid greenwashing, credits from by-product utilization are not accounted for in the net sum of emissions of Rock Tech LCA, although Rock Tech supports avoiding carbon emissions in an industry beyond the scope of the LCA.

² See also Rock Tech's press release "Implementing Zero-Waste: Rock Tech Lithium, GP Papenburg and Schwenk Zement Collaborate for Closer Commercial Utilisation of Lithium By-Products" issued 30 January, 2023.

DATA AND CONFORMITY OF THE STUDY

The LCA takes into account several impact categories and examines the possible environmental impact of products, processes and services throughout their lifecycle. This method ensures that all of the essential factors are assessed for a sustainable and efficient process. Secondary data is being used to calculate the carbon footprint of spodumene mining and concentration. All LCA processes rely on primary data. The primary data originates from mass and energy flow sheets (activity data) from the Rock Tech Project Study, which was published on November 4, 2022. Furthermore, the LCA has been critically assessed by an independent third party (DEKRA) in accordance with ISO 14071 (2016) paragraph 4.3.3 and ISO 14044 (2006) paragraph 6.2. The Company of Rock Tech's carbon footprint to the IEA special report (see table 1), which is not subject to the LCA done by Fraunhofer ILR, is verified by DEKRA.

ABOUT ROCK TECH

Rock Tech is a cleantech company with operations in Canada and Germany on a mission to produce lithium hydroxide for electric vehicle batteries. The Company plans to build lithium converters at the door-step of its customers, to guarantee supply-chain transparency and just-in-time delivery, beginning with the Company's proposed lithium hydroxide merchant converter and refinery facility in Guben. To close the most pressing gap in the clean mobility story, Rock Tech has gathered one of the strongest teams in the industry. The Company has adopted strict environmental, social and governance standards and is developing a proprietary refining process to further increasing efficiency and sustainability. Rock Tech plans to source raw material from its wholly-owned Georgia Lithium project located in the Thunder Bay Mining District of Ontario, Canada, as well as procuring it from other responsibly produced sources. In years to come, the Company expects to also source raw material from discarded batteries. Rock Tech's goal: to create a closed-loop production system. www.rocktechlithium.com

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

CAUTIONARY NOTE CONCERNING FORWARD-LOOKING INFORMATION

Certain statements contained in this news release constitute "forward-looking information" under applicable securities laws and are referred to herein as "forward-looking statements". All statements, other than statements of historical fact, which address events or developments that the Company expects to occur are forward-looking statements. When used in this news release, words such as "expects", "anticipates", "plans", "predicts", "believes", "estimates", "intends", "targets", "projects", "forecasts", "may", "will", "could" or negative versions thereof and other similar expressions are intended to identify forward-looking statements. The forward-looking statements contained in this news release include: statements and data from the LCA, including the carbon footprint calculations therein; the further potential reduction of the Company's carbon footprint and emissions; and the Company's expectations as described in the section "About Rock Tech".

Forward-looking statements by their nature are based on assumptions and involve known and unknown risks, uncertainties and other factors which may cause the actual results to differ materially from the forward-looking statements. The material factors or assumptions that may develop the forward-looking statements include: the type of mining and concentration of lithium; the distance required for transportation; the mix of energy supply for the Guben Converter; the Company's ability to procure supplies and other equipment for its business; that all required regulatory approvals and permits can be obtained on the necessary terms in a timely manner; that financing will be available to the Company on commercial terms. There may also be other factors that cause actual results to differ from the forward-looking statements, including the risks, uncertainties and other factors discussed in the Company's management's discussion and analysis and annual information form filed with the applicable securities regulators.

No assurances can be given that any of the events anticipated by the forward-looking statements will transpire or occur.

cautions the reader not to place undue reliance upon any such forward-looking statements. The Company does not intend to assume any obligation to update or revise any of the forward-looking statements, whether as a result of new information, assumptions, future events or otherwise, except to the extent required by applicable law.

ATTACHMENT

Table 1 | Rock Tech carbon footprint comparison against International Energy Agency (IEA) special report.

Sources: Original IEA values are reported in lithium carbonate equivalent (LCE) and were converted to LiOH.H₂O using a 0.88 conversion rate. Adapted from International Energy Agency (IEA) Special Report: "The Role of Critical Minerals in Clean Energy Transitions" page 196 of revised version, March 2022: <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions>; accessed 22 May 2023.

View original content to download

multimedia:<https://www.prnewswire.com/news-releases/rock-techs-guben-converter-lithium-production-carbon-footprint-is-30-percent-lower-than-the-international-energy-agency-report-301484888.html>

SOURCE [Rock Tech Lithium Inc.](#)

Contact

André Mandel, phone: +49 (0) 2102 89 41 116; or email: amandel@rocktechlithium.com, [Rock Tech Lithium Inc.](#); 777 Hornby Street, Suite 600, Vancouver, B.C., V6Z 1S4

Dieser Artikel stammt von [Minenportal.de](#)

Die URL für diesen Artikel lautet:

<https://www.minenportal.de/artikel/503690--Rock-Techund039s-Guben-Converter-Lithium-Production-Carbon-Footprint-is-30-Percent-Lower-than-the-International-Energy-Agency-Report-301484888.html>

Für den Inhalt des Beitrages ist allein der Autor verantwortlich bzw. die aufgeführte Quelle. Bild- oder Filmrechte liegen beim Autor/Quelle bzw. bei der vom ihm benannten Quelle. Bei Übersetzungen können Fehler nicht ausgeschlossen werden. Der vertretene Standpunkt eines Autors spiegelt generell nicht die Meinung des Webseiten-Betreibers wieder. Mittels der Veröffentlichung will dieser lediglich ein pluralistisches Meinungsbild darstellen. Direkte oder indirekte Aussagen in einem Beitrag stellen keinerlei Aufforderung zum Kauf-/Verkauf von Wertpapieren dar. Wir wehren uns gegen jede Form von Hass, Diskriminierung und Verletzung der Menschenwürde. Beachten Sie bitte auch unsere [AGB/Disclaimer](#)!

Die Reproduktion, Modifikation oder Verwendung der Inhalte ganz oder teilweise ohne schriftliche Genehmigung ist untersagt!
Alle Angaben ohne Gewähr! Copyright © by [Minenportal.de](#) 2007-2024. Es gelten unsere [AGB](#) und [Datenschutzrichtlinien](#).