23 November 2021

LCA QUANTIFIES CINOVEC LITHIUM CHEMICAL PRODUCTION CO_2 EMISSIONS AND MITIGATION SCENARIOS IDENTIFIED TO PRODUCE LOW CARBON PRODUCTS

CEZ TO PROVIDE GREEN POWER TO PROJECT

HIGHLIGHTS

- **Cinovec's Global Warming Potential has been modelled using ISO-compliant LCA by consultancy Minviro Ltd, providing clear resolution of the drivers of the project's emissions.**
- **GWP Impact Mitigation Scenarios identified for the Cinovec Project, potentially including solar power, electric mining fleet, Hypex Bio explosives and use of green hydrogen for thermal energy (Cinovec Decarbonised Case) which could make Cinovec's lithium chemicals have some of the lowest CO_2 intensity in the world if all impact mitigation strategies are pursued.**
- **CEZ plans to provide 100% renewable energy to power the mine, the Front-End Comminution and Beneficiation (FECAB) and Lithium Chemical Plants (LCP)**
- **LCA also assessed Acidification Potential (AP), Water Use and Land Use (per ISO standards).**
  - **AP is comparable to Chilean Brine but only 13% of the equivalent for Australian spodumene processed in China.**
  - **Cinovec Water Use projected to be lower than all benchmarks and <5% of Chilean Brine Water Use even when water evaporated from the brine is not included in the water use calculation.**

European Metals Holdings Limited ("**EMH", or "the Company"**) (**ASX & AIM: EMH, OTC – Nasdaq Intl ADS: EMHXY**) is pleased to provide an update in relation to the outcomes of the Life Cycle Assessment conducted by Minviro in relation to lithium battery chemicals production from the Cinovec mine.

Keith Coughlan, Executive Chairman, said "We are extremely pleased that the Minviro LCA has confirmed what we have believed to be the case for a long time – Cinovec has the potential to have the lowest overall environmental impacts compared to other conventional lithium battery metals projects not only in Europe but also on a global basis. With the use of solar power and other optimisations the Cinovec Project will set a standard by which all other conventional lithium producers could be judged. We expect the environmental credentials of the Cinovec Project will help make its product valuable to end users, particularly in light of the new EU requirements in relation to greenhouse emissions. Not only does the optimised model demonstrate very low CO2 emissions, the Project also delivers excellent results with regards to acidification and water consumption. As Cinovec is an historic underground mine with minimal social and environmental impacts, the entire ESG credentials of the Project are very strong.

In addition, we expect to shortly provide a market update covering the additional benefits of a mine backfill study and a revised PFS which updates the project economics and value of the Project."

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MINE, FECAB AND LCP TO BE POWERED BY SOLAR POWER PLANT

CEZ, EMH's joint venture partner in in the Cinovec Lithium Project, plans to provide 100% renewable energy to power the mine, the Front-End Comminution and Beneficiation (FECAB) And Lithium Chemical Plants (LCP). CEZ currently owns renewables installations with aggregate power generation capacity of 1720 MW. This capacity will increase by 1500 MW by 2025.

The renewable energy sources will be capable of providing all the required power for all aspects of the Cinovec Project including the mine, the FECAB plant as well as the Lithium Chemical Plant under normal operating conditions. The Company is also considering the use of electric mining equipment to further reduce the CO_2 footprint at Cinovec.

CINOVEC LIFE CYCLE ASSESSMENT

As previously announced, Minviro (a UK-based and globally recognised sustainability and life cycle assessment consultancy) was engaged to conduct a Life Cycle Assessment (**LCA**) for the Cinovec Project's proposed lithium battery-grade chemicals, Lithium Carbonate (**Li_2CO_3**) and Lithium Hydroxide Monohydrate (**LiOH**) (refer to the Company's ASX release dated 10 June 2021). The LCA was completed at the end of 3Q21 and the full results underwent independent external QA/QC peer review, including ISO compliance review, before finalisation.

The Minviro work has assessed the LCA for both Li_2CO_3 and LiOH based upon the PFS studies published by EMH for Li_2CO_3 (refer to the Company's ASX release dated 19 April 2017) and LiOH (refer to the Company's ASX release dated 17 June 2019) (together the **PFS**). The work included assessments of Global Warming Potential (**GWP**), Acidification Potential (**AP**), Water Use and Land Use compared with the most relevant global benchmarks with proven flowsheets for lithium chemicals production (Chilean brine; Australian spodumene; and US sedimentary clay).

Minviro also assessed GWP reduction strategies being advanced by Geomet management (as part of the ongoing Definitive Feasibility Study) to reduce the carbon footprint of Cinovec, including full electrification of the mine and mining vehicle fleet; sourcing all electrical power for both the mine and lithium processing plant from a proposed co-developed photovoltaic cell array adjacent to the Cinovec processing plant; and green hydrogen as replacement for conventional gas in the ore roasting process (**Decarbonization Case**).

The LCA was conducted according to the requirements of the ISO-14040:2006 and ISO-14044:2006, including a third-party review from LCA experts to ensure that the LCA study is scientifically robust.

Results of the Life Cycle Assessment

LiOH Production

LiOH products can have different environmental impacts depending on the natural resource they are produced from and the process technology chosen in flowsheets. A comparison of how the Cínovec LiOH product will compare to existing process pathways is shown below in Figure 1.

The GWP for the Cinovec PFS case is expected to be around 16.6 kg CO_2 eq. per kg LiOH. For LiOH from Chilean brine, the GWP is estimated to be 6.6 kg CO_2 eq. per kg LiOH. For Australian spodumene converted in China the impact is 15.5 kg CO_2 eq. per kg LiOH. LiOH produced from Nevada sedimentary clay resources has a GWP that is calculated to be 20.7 kg CO_2 eq. per kg LiOH. The GWP calculated for the Cinovec Decarbonised case which would involve a number of significant modifications to the project as considered in the 2019 PFS could be one of the lowest in the world, estimated to be around 2.9 kg CO_2 eq. per kg LiOH

For all five production routes shown in Figure 1 the chemical processing is the largest driver of the impact. Transport is minimal for all routes except for the Australian spodumene route, where the spodumene concentrate is transported to China; and the LiOH product from all production routes is transported 400 km from the Port of Rotterdam to provide the GWP impacts as delivered at the same end-users.

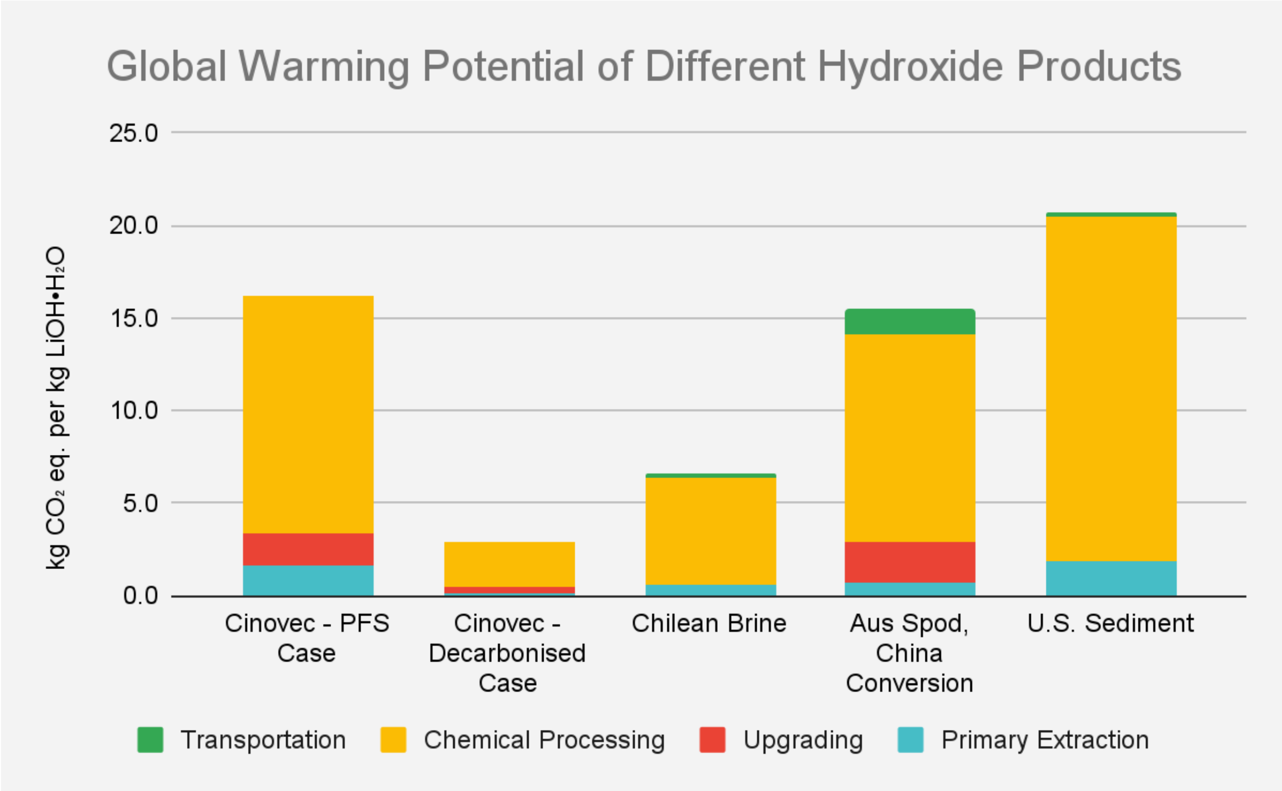

Figure 1: GWP Impact of LiOH produced from Cinovec PFS (2019), the theoretical Cinovec Decarbonised Case, for Chilean Brine, Australian Spodumene converted in China and US Sedimentary Clay. Source: Minviro

The Acidification Potential (AP) impact of the Cínovec product and the three comparison scenarios is shown in Figure 2. The AP impact for Chilean brine is the lowest: 0.03 mol H^+ eq. per kg LiOH, followed by the AP impact of the Cínovec project which is calculated to be 0.05 mol H^+ eq. per kg LiOH. The AP impact is much higher for the spodumene production route and the US sediment route: 0.47 and 0.36 mol H^+ eq. per kg LiOH respectively. This is mainly due to the embodied AP impact of sodium hydroxide used in the process. The AP impact of the Cinovec Decarbonised scenario is not included, as for a number of decarbonised characterisation factors, no AP impact is currently available.

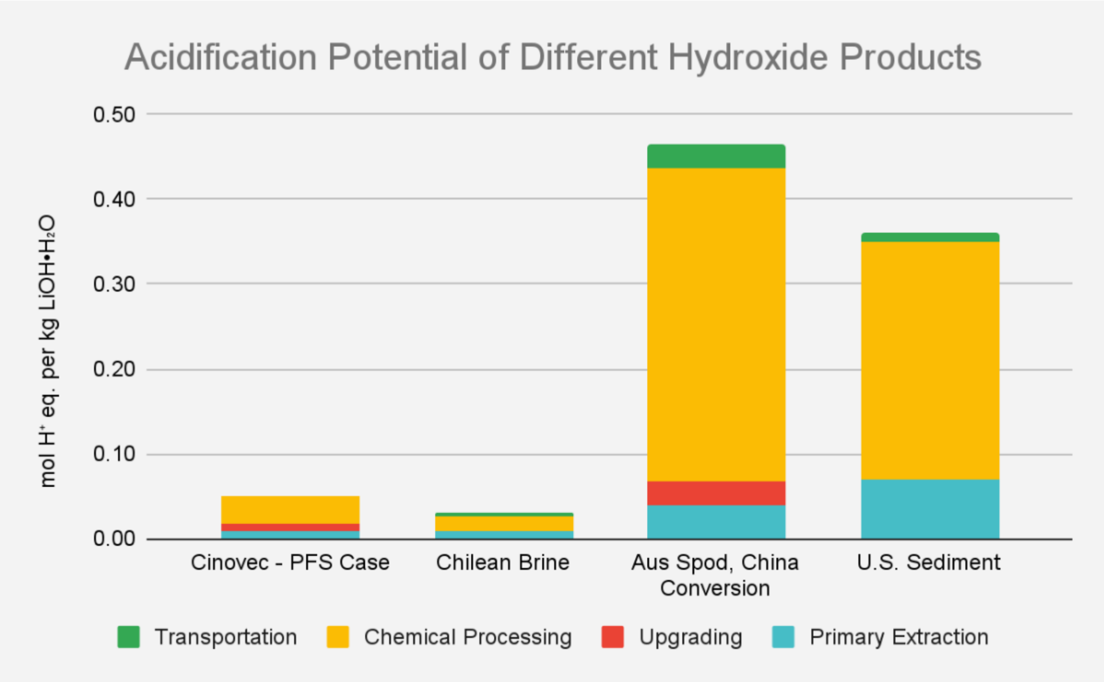

Figure 2: AP Impact of LiOH produced from Cinovec PFS (2019) and for Chilean Brine, Australian Spodumene converted in China and US Sedimentary Clay. Source: Minviro

The water use impact for the four scenarios is shown in Figure 3. The water use has been split into direct water use and the associated increase of the AWARE water scarcity factor. For all three comparison scenarios, a water scarcity factor is used according to the AWARE Methodology used by Minviro for comparing freshwater use at different locations. Since the Atacama is the driest place in the world, freshwater use is considered 100x more impactful to ecosystems than it is in places like the Czech Republic where there is plenty of water. Again, the Cínovec Decarbonised scenario is not included, as the impact on water use of the decarbonisation scenarios is not available.

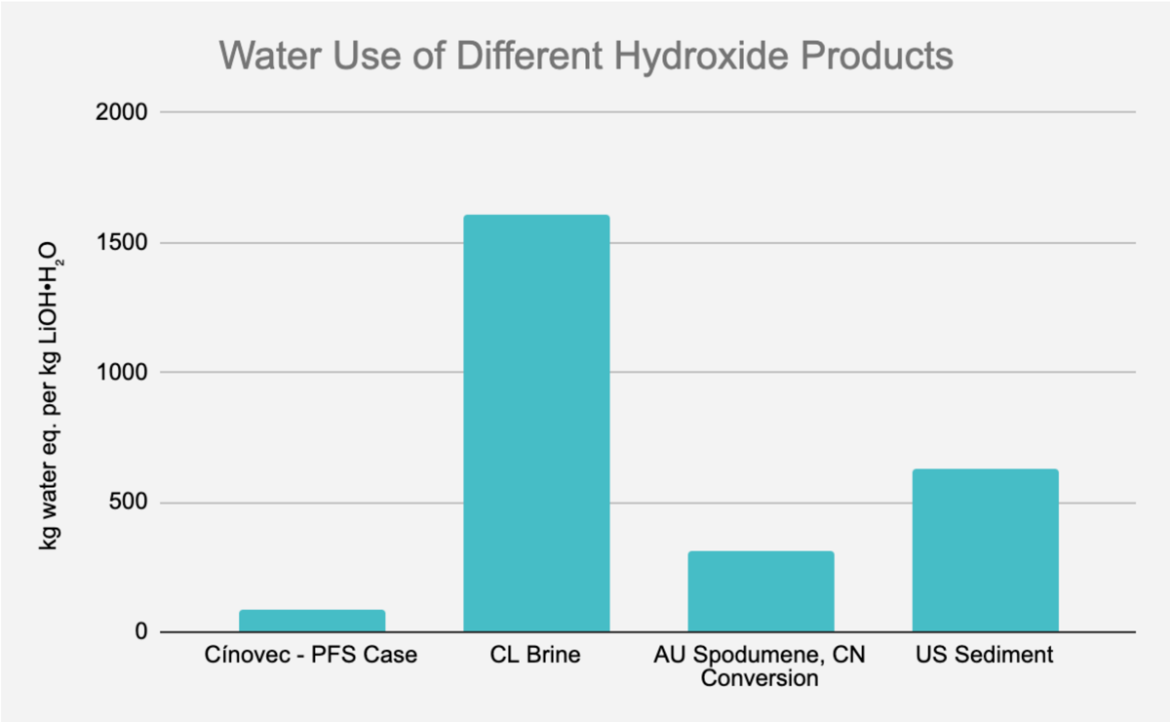

Figure 3: Water Impact of LiOH produced from Cinovec PFS (2019) and for Chilean Brine, Australian Spodumene converted in China and US Sedimentary Clay. Source: Minviro

Li_2CO_3 Production

As with LiOH, Li_2CO_3 products can have different environmental impacts depending on the natural resource they are produced from and the process technology chosen in flowsheets. A comparison of how the Cínovec carbonates product GWP impact will compare to existing process pathways is shown below in Figure 4.

The GWP calculated for the Chilean brine is the lowest: 2.7 kg CO_2 eq. per kg Li_2CO_3. For the Cinovec PFS case, the Li_2CO_3 product has a GWP of 15.2 kg CO_2 eq. per kg Li_2CO_3. Li_2CO_3 produced from Nevada sedimentary clay resources has a GWP that is calculated to be 18.1 kg CO_2 eq. per kg Li_2CO_3. For Australian spodumene converted in China the impact is 24.2 kg CO_2 eq. per kg Li_2CO_3. Li_2CO_3 produced from the Cinovec De-carbonised case has a GWP that is calculated to be 2.4 kg CO_2 eq. per kg Li_2CO_3.

For all production routes shown, the chemical processing is again the largest driver of the impact. Transport impact is minimal for all routes except for the Australian spodumene route, where the spodumene concentrate is transported to China and the Li_2CO_3 product from all production routes is transported 400 km from the Port of Rotterdam to provide the GWP impacts as delivered at the same end-users.

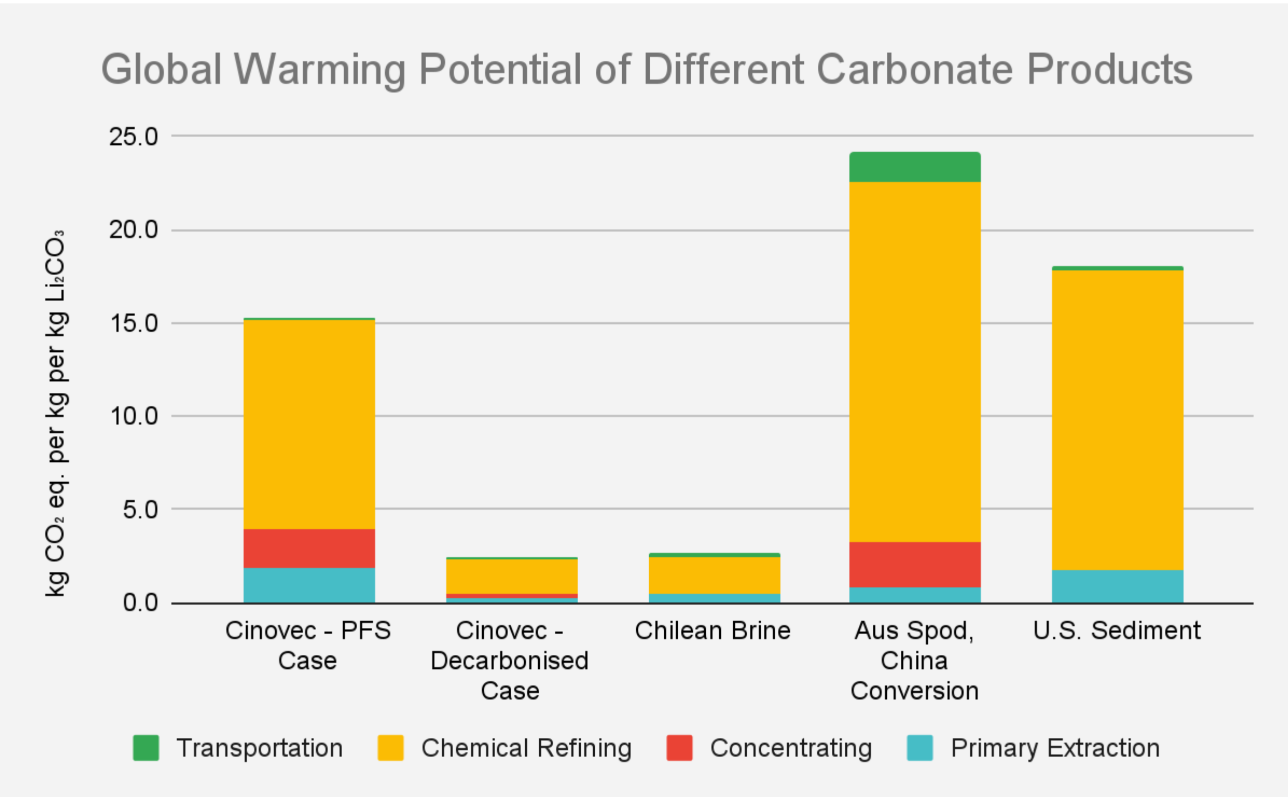

Figure 4: GWP Impact of Li_2CO_3 produced from Cinovec PFS (2019), the theoretical Cinovec Decarbonised Case, for Chilean Brine, Australian Spodumene converted in China and US Sedimentary Clay. Source: Minviro

The AP impact of the Cínovec product and the three comparison scenarios is shown in Figure 5. The AP impact for Chilean brine is the lowest: 0.03 mol H+ eq. per kg Li_2CO_3. The AP impact calculated for the Cínovec PFS case is 0.05 mol H+ eq. per kg Li_2CO_3. The AP impact for Li_2CO_3 produced from spodumene is again higher: 0.28 mol H+ eq. per kg Li_2CO_3. For US Sedimentary Clay, the AP impact is calculated to be 0.33 mol H+ eq. per kg Li_2CO_3.

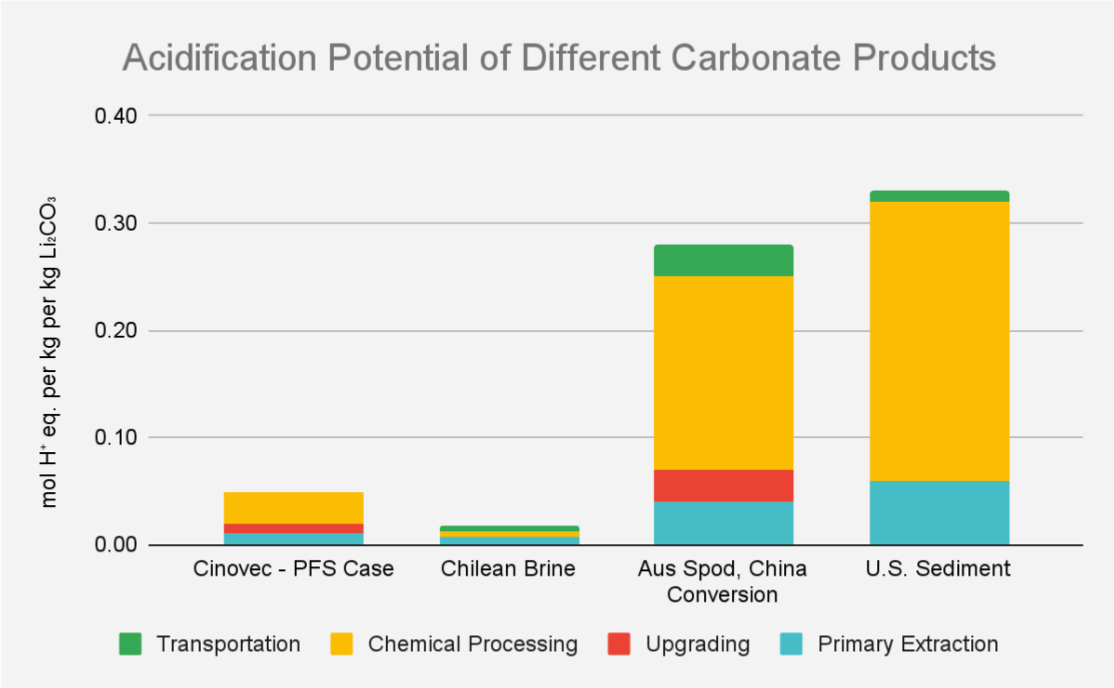

Figure 5: AP Impact of Li_2CO_3 produced from Cinovec PFS (2019), for Chilean Brine, Australian Spodumene converted in China and US Sedimentary Clay. Source: Minviro

The water use impact for the four scenarios is shown in Figure 6. The decarbonised scenario is not included. The water use has been split into direct water use and the associated regional water consumption increases due the AWARE water scarcity factor. For all three comparison scenarios the increase due to the water scarcity impact increases the water impact significantly compared to the direct water use and the water use of consumed electricity and materials. The water use impact of the Cinovec Li2CO3 product is 68.7 kg water eq. per kg Li2CO3.

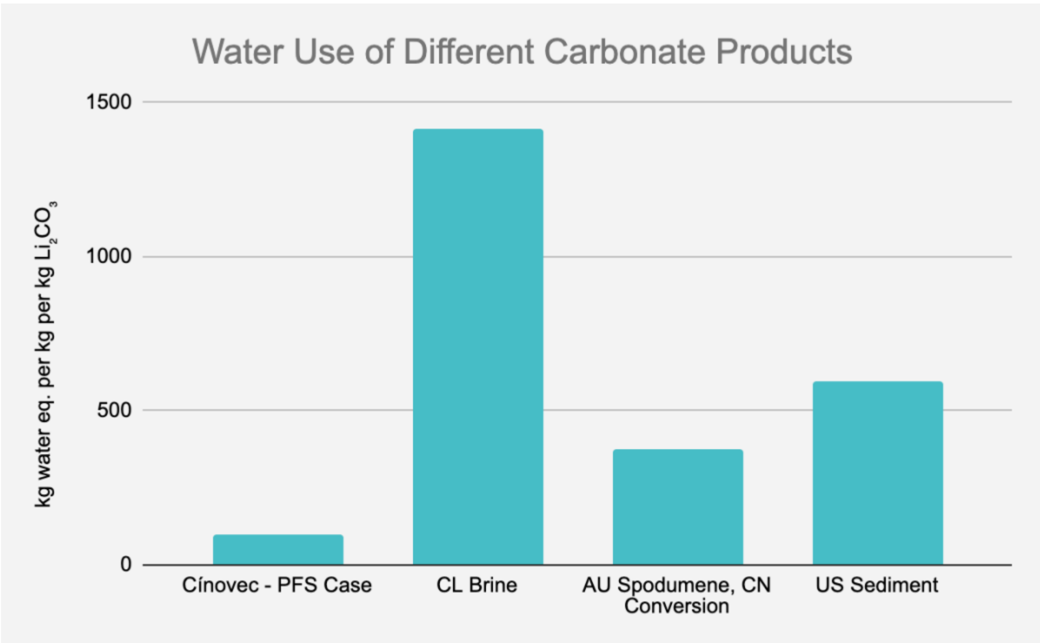

Figure 6: Water Impact of Li_2CO_3 produced from Cinovec PFS (2019), for Chilean Brine, Australian Spodumene converted in China and US Sedimentary Clay. Source: Minviro

GWP IMPACT MITIGATION SCENARIOS FOR THE CINOVEC PROJECT (CINOVEC DECARBONISATION CASE)

2030 Czech Electricity Grid mix

CEZ s.a. notified Minviro that the electricity generation within the Czech Republic will reduce its reliance on coal as a primary means of electricity generation by 2030. The revised grid mix was modelled by Minviro.

When assuming the Czech electricity grid mix for 2030, the GWP of impact of the LiOH product decreases from 16.6 to 12.1 kg CO_2 eq. per kg LiOH. For Li_2CO_3, the GWP impact decreases from 15.7 to 11.1 kg CO_2 eq. per kg Li_2CO_3 for the Czech Republic 2030 electricity grid mix.

Solar Power Plant

When renewable electricity is incorporated from a photovoltaic source, the contribution of the GWP impact of electricity reduces from 7.9 kg CO_2 eq. per kg LiOH (Czech Republic grid) to 1.0 kg CO_2 eq. per kg LiOH (photovoltaic). This is primarily due to the GWP intensity of the existing Czech grid, which is reliant on lignite coal. For a scenario where the electricity used by the Cínovec projects comes from a photovoltaic source, the GWP impact of the LiOH reduces from the original value of 16.6kg CO_2 eq. per kg LiOH to 9.7 kg CO_2 eq. per kg LiOH.

Electric Mining Fleet

For a scenario where the existing diesel fuelled fleet is replaced by an electric underground mining fleet, the contribution of the GWP impact of the mining fleet reduces from 0.5 kg CO_2 eq. per kg LiOH (diesel fuelled) to 0.1 kg CO_2 eq. per kg LiOH (electric, assuming a photovoltaic electricity source). For a scenario where the electricity from the Cínovec projects comes from a photovoltaic source and the mining fleet is assumed to be electric, the GWP impact of the LiOH product is 9.2 kg CO_2 eq. per kg LiOH.

Hypex 50 Explosives

When replacing the conventional emulsion with Hypex50 explosives, used to liberate the ore and for underground development, of which 96% consists of hydrogen peroxide and water, the contribution of the explosives to the GWP impact reduces from 0.3 kg CO_2 eq. per kg LiOH (conventional emulsion) to 0.1 kg CO_2 eq. per kg LiOH (Hypex50 bio explosives). For a scenario where the explosives are sourced from Hypex50, the electricity is sourced from a renewable photovoltaic source and the underground mining fleet is electric, the GWP impact on the LiOH product is 9.0 kg CO_2 eq. per kg LiOH.

Use of Hydrogen

In the fourth scenario, it is assumed that the thermal energy provided to the underground mine and the chemical plant through the combustion of natural gas is supplied by hydrogen that is produced using photovoltaic electricity. When replacing natural gas by hydrogen as a thermal energy source for the chemical plant and underground mine, the GWP impact of the thermal energy requirements reduces from 5.7 kg CO_2 eq. per kg LiOH (natural gas) to 0.8 kg CO_2 eq. per kg LiOH (photovoltaic produced hydrogen). In a scenario where it assumed that all electricity consumed by the Cínovec project is produced from a photovoltaic source, the underground mining fleet is electric, the explosives are Hypex50 Bio and the thermal energy used by the underground mine and the chemical plant comes from hydrogen, the overall GWP impact on the LiOH product reduces to 3.3 kg CO_2 eq. per kg LiOH.

Impact Mitigation scenario analysis

The GWP impact of the decarbonisation scenarios on mining, concentrating, chemical refining and transport stage of the Cínovec project's LiOH product in the PFS case is shown in the waterfall chart contained below in Figure 7. When all four decarbonizing scenarios are utilised, the GWP impact reduces from 16.6 to 3.3 kg CO_2 eq. per kg LiOH.

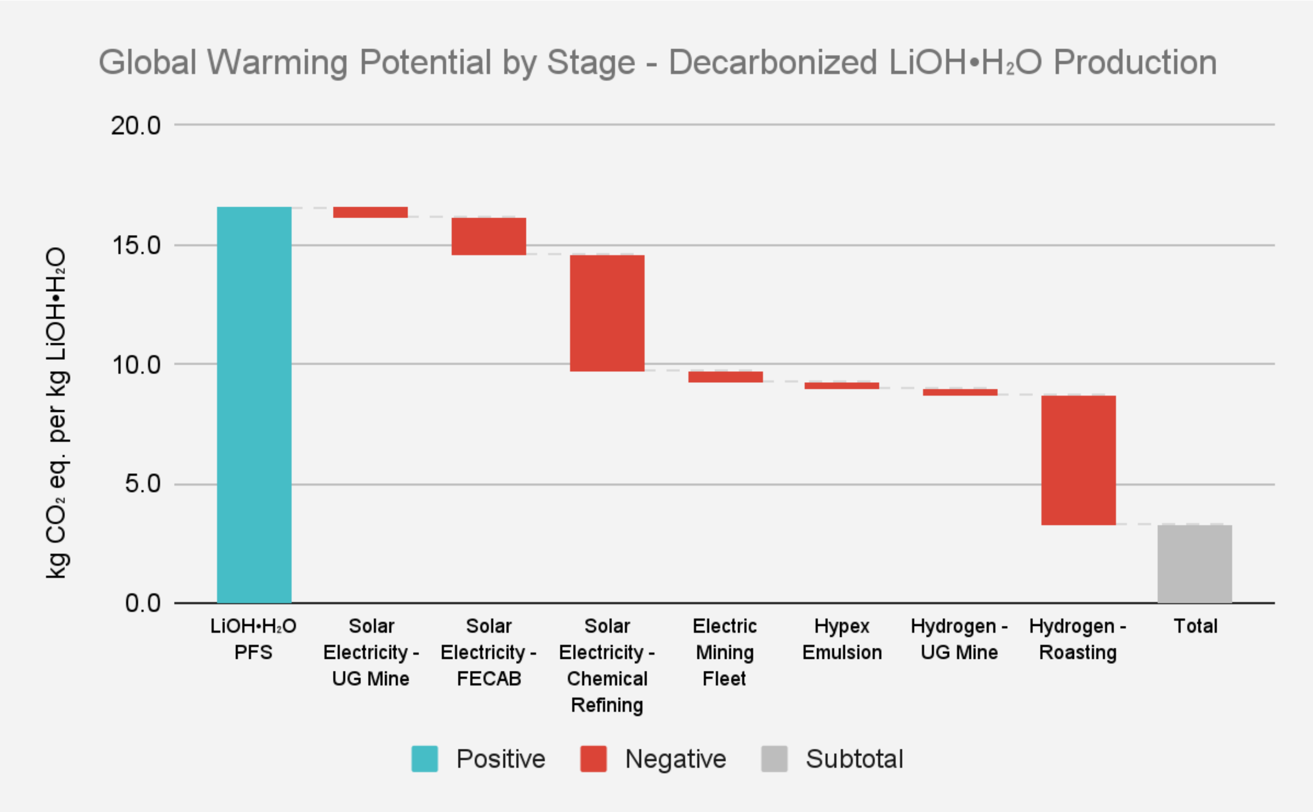

Figure 7: Reduction in GWP of LiOH for Decarbonization Scenarios.

Source: Minviro

These four scenarios also have been investigated for Li_2CO_3. The GWP impact of the decarbonisation scenarios on mining, concentrating, chemical refining and transport stage of the Cínovec project's Li_2CO_3 product in the PFS case is shown in the waterfall chart contained below in Figure 8. When all four decarbonizing scenarios are utilised, the GWP impact reduces from 15.7 to 2.8 kg CO_2 eq. per kg Li_2CO_3.

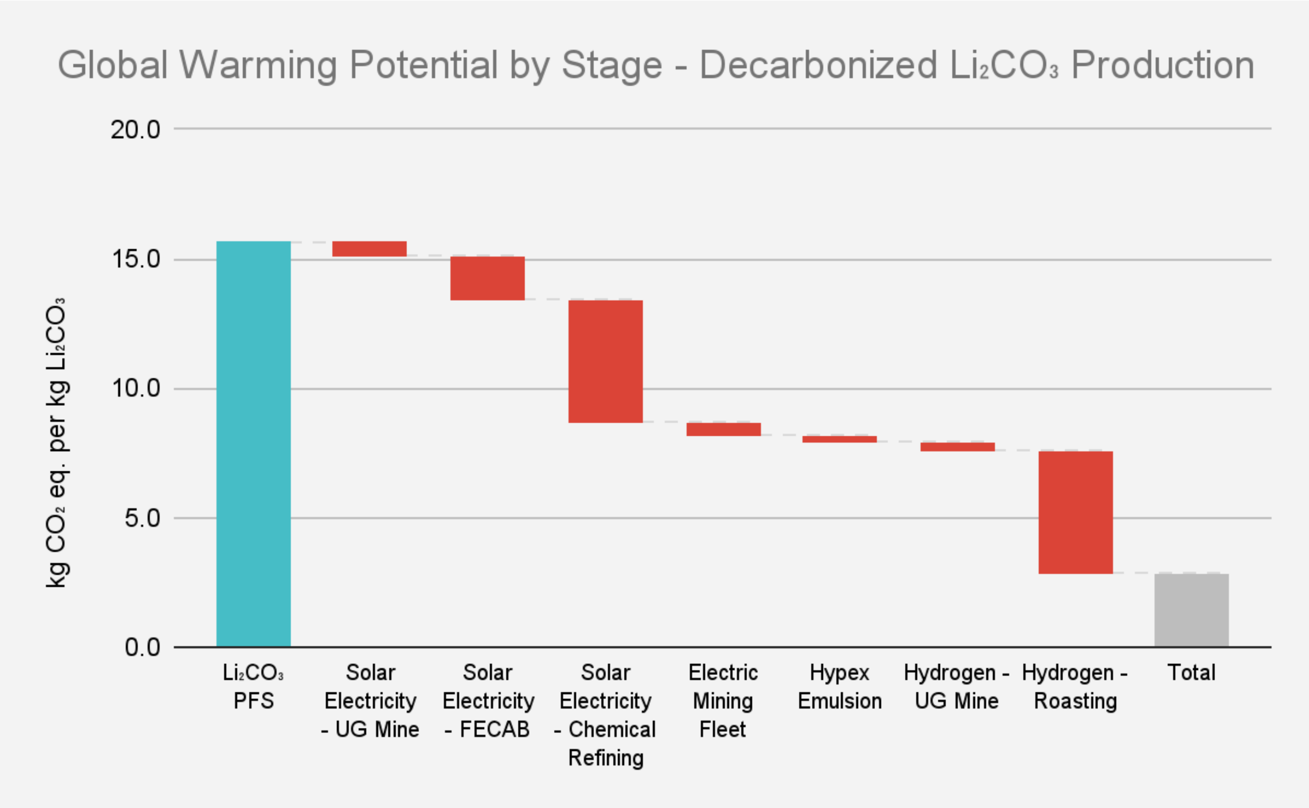

Figure 8: Reduction in GWP of Li2CO3 for Decarbonisation Scenarios.
Source: Minviro

BACKGROUND INFORMATION ON CINOVEC

Cinovec Lithium/Tin Project

Geomet s.r.o. controls the mineral exploration licenses awarded by the Czech State over the Cinovec Lithium/Tin Project. Geomet has been granted a preliminary mining permit by the Ministry of Environment and the Ministry of Industry. The company is owned 49% by EMH and 51% by CEZ a.s. through its wholly owned subsidiary, SDAS. Cinovec hosts a globally significant hard rock lithium deposit with a total Measured Mineral Resource of 53.3Mt at 0.47% Li_2O and 0.08% Sn, Indicated Mineral Resource of 361.9Mt at 0.45% Li_2O and 0.04% Sn and an Inferred Mineral Resource of 295Mt at 0.39% Li_2O and 0.04% Sn containing a combined 7.39 million tonnes Li_2CO_3 Equivalent and 263kt of tin (refer to the Company's ASX release dated 13 October 2021) **(Resource Upgrade at Cinovec Lithium Project).**

An initial Probable Ore Reserve of 34.5Mt at 0.65% Li_2O and 0.09% Sn reported 4 July 2017 (**Cinovec Maiden Ore Reserve – Further Information**) has been declared to cover the first 20 years mining at an output of 22,500tpa of Li_2CO_3 (refer to the Company's ASX release dated 11 July 2018) (**Cinovec Production Modelled to Increase to 22,500tpa of Li_2CO_3**).

This makes Cinovec the largest hard rock lithium deposit in Europe, the fourth largest non-brine deposit in the world and a globally significant tin resource.

The deposit has previously had over 400,000 tonnes of ore mined as a trial sub-level open stope underground mining operation.

In June 2019 EMH completed an updated Preliminary Feasibility Study, conducted by specialist independent consultants, which indicated a return post tax NPV of USD1.108B and an IRR of 28.8% and confirmed that the Cinovec Project is a potential low operating cost, producer of battery grade LiOH or battery grade Li_2CO_3 as markets demand (refer Company's ASX release dated 17 June 2019). It confirmed the deposit is amenable to bulk underground mining. Metallurgical test-work has produced both battery grade LiOH and battery grade Li_2CO_3 in addition to high-grade tin concentrate at excellent recoveries. Cinovec is centrally located for European end-users and is well serviced by infrastructure, with a sealed road adjacent to the deposit, rail lines located 5 km north and 8 km south of the deposit and an active 22 kV transmission line running to the historic mine. As the deposit lies in an active mining region, it has strong community support.

The economic viability of Cinovec has been enhanced by the recent strong increase in demand for lithium globally, and within Europe specifically.

There are no other material changes to the original information and all the material assumptions continue to apply to the forecasts.

CONTACT

For further information on this update or the Company generally, please visit our website at www.europeanmet.com or see full contact details at the end of this release.

WEBSITE

A copy of this announcement is available from the Company's website at www.europeanmet.com.

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The information contained within this announcement is considered to be inside information, for the purposes of Article 7 of EU Regulation 596/2014, prior to its release. The person who authorised for the release of this announcement on behalf of the Company was Keith Coughlan, Executive Chairman.

CAUTION REGARDING FORWARD LOOKING STATEMENTS

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company's business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company's control.

Although the company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

This announcement has been prepared in compliance with the JORC Code 2012 Edition and the current ASX Listing Rules.

PREVIOUSLY REPORTED INFORMATION

The information in this report relating to Exploration Results, Mineral Resources, Ore Reserves, production targets and forecast financial information derived from a production target is extracted from the Company's ASX releases referred to in the body of the report and are available to view on the Company's ASX announcements platform (ASX: EMH). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.