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CORPORATE RELEASE

World-leading low-carbon credentials for the Lake Hope High Purity Alumina (HPA) Project, WA

- Scope 1 and Scope 2 CO_2 emissions per tonne of HPA produced from the Lake Hope project to be on par with or lower than competing processes globally.
- The low emissions are similar for both metallurgical process routes (the Sulphate and LTL Processes) being considered for Lake Hope as part of the on-going Pre-Feasibility Study.
- A strategy to achieve zero carbon HPA has been defined including a 100% renewable energy development scenario.
- The Pre-Feasibility Study continues on schedule to be completed in Q4 this year.

A preliminary study into the potential carbon dioxide (CO_2) emissions from Impact Minerals Limited's (ASX:IPT) Lake Hope High Purity Alumina (HPA) project in Western Australia has shown that Scope 1 and Scope 2 CO_2 emissions will likely be significantly lower than incumbent processes that produce HPA, and on par or even much lower than emerging processes, in particular under a 100% renewable electrical energy development scenario (Figure 1).

The low emissions apply to both the Sulphate and Low-Temperature-Leach (LTL) processes that are being considered by Impact to produce HPA as part of the Pre-Feasibility Study for the development of the Lake Hope project (Figure 1 and ASX Releases February 19th, 2024, and February 27th, 2024).

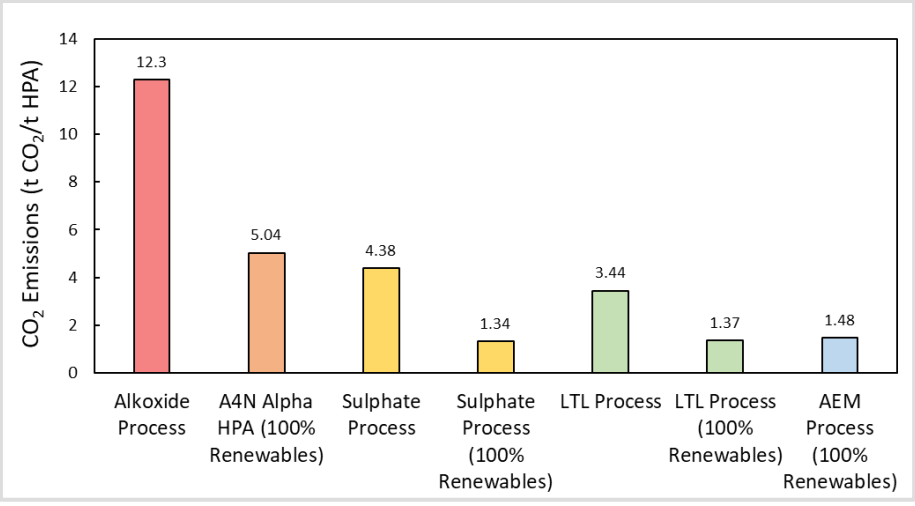

Figure 1. Likely CO_2 emissions for four different production methods for HPA: the incumbent alkoxide process; Alpha HPA Limited (ASX Release November 21st 2023); Impact's proposed Sulphate and Low-Temperature-Leach processes; & AEM who produce HPA in Canada using hydroelectric power.

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The emissions study has shown that using the current Western Australian electricity supply, likely emissions are 4.38 tonnes of CO_2 per tonne of HPA produced via the Sulphate process and 3.44 tonnes of CO_2 per tonne of HPA for the LTL process. This is competitive with traditional and emerging HPA production methods (Figure 1). For example, most of the world's HPA production comes from the refinement of aluminium metal (alkoxide process) or precursors (modified Bayer process) via energy-intensive processes that are also responsible for significant amounts of toxic waste.

Scope 1 emissions generally relate to CO_2 produced directly from operations and include the proposed mine, haulage of ore and the processing plant.

Scope 2 emissions relate mostly to CO_2 produced from the energy used to power the company's operations.

Scope 3 emissions related to CO_2 produced indirectly from the company's downstream activities and include the emissions associated with purchased goods and services such as reagents, plant and equipment and Business-As-Usual emissions such as travel and commuting to work.

Only Scope 1 and Scope 2 emissions have been considered at this stage as these are within the direct control of Impact Minerals and this is an appropriate level of detail for the Pre-Feasibility Study. As per standard CO_2 accounting practices, Scope 3 emissions will be passed through to the fertilizer by-products. Initial indications are that these emissions will also be on par or lower than incumbent fertilizer production processes.

100% Renewable Energy

The largest contributor to the overall CO_2 emissions from the Project come from Scope 2 emissions from the electricity required to power the processing plant and which has been modelled to come from the South West Interconnected System (SWIS), Western Australia's main power source. The SWIS is currently coal-powered and the emissions from this have been used in the main model.

However, the WA Government is committed to making the SWIS entirely powered by renewables by 2030 (https://www.brighterenergyfuture.wa.gov.au). In addition, advances in renewables technology also offer the potential to power the process plant entirely by renewable energy. Accordingly, Impact's study has also modelled the CO_2 emissions under a 100% renewable energy scenario. This results in a significant further reduction in emissions for both of Impact's process routes to about 1.35 tonnes of CO_2 per tonne of HPA.

Within the accuracy of this study, which is plus or minus 30%, this would be on par with or better than the lowest known CO_2 emissions for HPA production which is powered by hydroelectric power (Figure 1).

Impact's strategy to move towards 100% renewable power is to build-out or contract-to-purchase a renewable energy supply for the processing plant. This will be studied as part of engineering and financial modelling under the PFS.

Net-Zero Carbon Strategy

Impact will strive to reach full decarbonisation of the project over time. This will require elimination or off-setting of the emissions from the SWIS as well as from mining, transport and calcining. Calcining, heating in a furnace, represents the final stage of the HPA process.

As noted above, the majority of the CO_2 emissions can be eliminated by substituting 100% renewable energy for SWIS energy by either build-out or contract-to-purchase a renewable energy supply.

Mining and transport emissions, which are relatively small, will require the deployment of low-carbon fuels or hydrogen-powered or electric vehicles for mining equipment and long-distance haulage, technologies that are maturing rapidly.

Calcination is an energy intensive process and even though the volume of pre-cursor aluminium salt that requires calcining to HPA are modest (<20,000 tonnes per annum), the emissions are a significant contributor to the Scope 1 emissions for the project. Calcination technology is a key focus of global decarbonization research and development, with several technologies in the testing phase including microwave heating, electric arc calcination and other opportunities. Impact will seek to understand the capacity and limitations of nascent calcine technologies for Lake Hope and monitor the maturing technologies in the medium term.

Impact will continue to develop its understanding of the prospective emissions of the Lake Hope project and the technical barriers to achieving net-zero carbon HPA at Lake Hope via the following strategy:

- Eliminate SWIS connection to avoid importing CO_2 from the grid
- Purchase 100% renewable energy via Build Own Operate or contracted renewable energy
- Investigate owner installation of renewable energy where appropriate
- Electrified mining plant and equipment suitable for the salt lake conditions, when available
- Monitor electric calcination technology developments and maturity
- Purchasing carbon offsets

Dr Michael G Jones
Managing Director

Authorised by the Board of Impact Minerals Limited

Background to the Study

Impact is completing a Preliminary Feasibility Study (PFS) into the economic recovery of High Purity Alumina (HPA) from lake clays at the company's flagship Lake Hope project, located 500 km east of Perth in Western Australia. Impact can earn an 80% interest in Playa One Pty Limited, which owns the Lake Hope project, by completing the PFS (ASX Release March 21st 2023 and November 9th 2023).

A positive Scoping Study into the Sulphate process showed the project has a Net Present Value (NPV8) of about A$1.3 billion and would potentially be one of the lowest-cost producers of HPA globally by a significant margin of more than 30% (ASX Release November 9th 2023). All material assumptions underpinning the production target and the forecast financial information derived from the production target utilised in the Scoping Study as announced on the ASX November 9th 2023 continue to apply and have not materially changed.

Previous work has shown that HPA can be produced from the clays at Lake Hope by two different hydrometallurgical treatment routes: the Playa One Sulphate Process and the recently announced breakthrough Low-Temperature-Leach (LTL) Process. Both processes have produced HPA at greater than the benchmark purity of 99.99% (4N), and a key focus of the PFS is to determine the preferred process of the two moving towards production (ASX Releases February 19th 2024 and February 27th 2024).

Both the Sulphate Process and LTL Process offer significant reductions in energy consumption compared to the incumbent methods of HPA production and are lower than or on par with emerging methods. Most of the world's HPA production comes from the refinement of aluminium metal or precursors via energy-intensive processes that are also responsible for significant amounts of toxic waste, for example the alkoxide process and modified Bayer process.

Impact has identified the prospective low-energy process options as a source of low carbon HPA. The company undertook a preliminary engineering study into the gross carbon emissions position of the Sulphate Process (as developed in the Scoping Study, ASX Release November 9th 2023), and the newly developed Low Temperature Leach process, in order to validate the low-carbon credentials and provide understanding of the benefits of 100% renewable energy and of zero-carbon HPA under a Net-Zero 2050 trajectory.

Methodology

Scope 1 and Scope 2 emissions were analysed on a project basis, which considered the HPA Project as a stand-alone business unit, excluding corporate emissions. Scope 3 emissions were not included at this early stage of the Project. This study is part of a recently completed MSc Project by Impact employee Angus Bruce at the University of Western Australia.

Impact notes that the full greenhouse gas emissions impact of Lake Hope is yet to be fully assessed, given that CO_2 emissions are only a portion of total emissions. Other emissions sources, such as fugitive chlorine emissions from the HCl gas sparging plant, nitrogen and other gaseous phases, can only be fully assessed upon completion of final engineering design. Therefore, the current analysis is limited in scope to CO_2 emissions and is not a holistic assessment.

Scope 1 and Scope 2 emissions were assessed on a 100% HPA basis as this was the primary economic product of the studied process. Production was normalized to the 10,000 tonnes per annum nameplate capacity as assessed in the Lake Hope Scoping Study (see announcement November 9th 2023). Total emissions were calculated for the HPA and by-products for both Sulphate Process and LTL process options. The LTL process uses 20% less energy overall than the Sulphate Process.

The two processes produce somewhat different fertilizer products due to differing chemical processes, resulting in the LTL process producing a lesser mass of by-product. Lower overall net emissions are driven by lower energy usage, with differences in CO_2 intensity as assigned to the HPA product and by-product.

Emissions were assigned to products on a mass balance basis in consideration of the relative masses of the HPA product and fertilizer product, with no emissions assigned to waste products. This was performed for each process step, with all energy costs from HCl purification and calcination attributed to the HPA product.

Differences in fertilizer by-product chemistry result in different costs and emissions for final product recovery, however these emissions are not attributable to HPA.

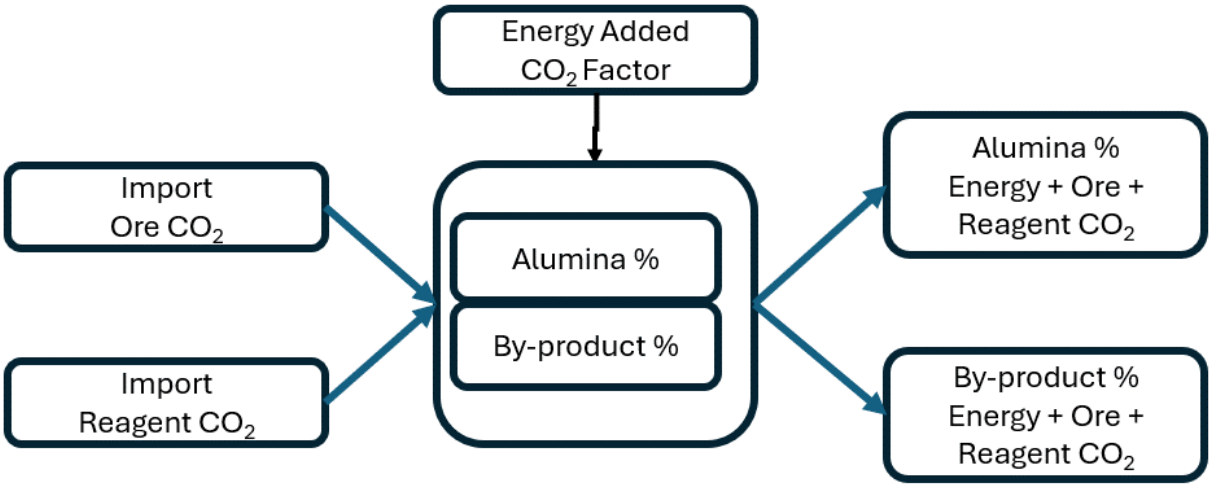

Figure 1. Carbon accounting flow sheet for attributing emissions to product streams

On a HPA basis the imported (Scope 2) emissions from the reagents are assigned to the fertilizer by-product, and imported CO_2 from acid is assigned to the by-product circuit. It is worth noting that the fertilizer by-product Scope 2 carbon cost is exported to the customer; due to the low energy required to produce these fertilizer products and the peculiarities of the Lake Hope mud, the fertilizer products are produced with a lower CO_2 intensity than several alternative methods. Lower-carbon factors will be investigated in the marketability of by-product fertilizer chemicals.

For the Business As Usual case, electrical energy was sourced from the Western Australian Southwest Integrated System (SWIS). Energy from the SWIS is generated from a mixture of fuel sources, including coal, natural gas, and renewable energy. Use of SWIS energy imports the emitted carbon dioxide in to the Project. For calcination of precursors into HPA, natural gas is used as a fuel, and CO_2 emissions from this are assigned to the HPA product as Scope 1 emissions. The estimated natural gas emissions factor is 0.8t CO_2 per tonne of HPA produced, with approximately 10% uncertainty.

The bulk of the CO_2 emissions are due to electricity consumption within the processing plant, and are sensitive to the emissions factor of the SWIS grid connection. The remainder of the emissions are directly related to calcination energy costs using natural gas.