

## E25 FILES KEY INTERNATIONAL PATENT APPLICATIONS FOR LOW CARBON HPMSM PROCESS

Element 25 Limited (**E25** or **Company**) (**ASX: E25; OTCQX: ELMTF**) is pleased to announce it has finalised and lodged two key international patent applications in relation to its battery grade high-purity manganese sulphate monohydrate (**HPMSM**) production process.

Element 25 has lodged these under the Patent Co-Operation Treaty (**PCT**), claiming priority from Australian Patent Application(s) 2022903576 & 2022903573. The patent applications are expected to provide protection for two key manganese processing steps in the Element 25 flow sheet, which are critical to delivering the advantages of its HPMSM process compared to existing processes currently in production, namely:

- Reduced energy consumption compared to roast reduction processing.
- Reduced reagent consumption compared to traditional neutralisation.

Separation of waste residues in forms that can be used in existing industrial processes, thereby minimising or eliminating waste disposal requirements.

These innovations mean that the E25 process can claim industry-leading low carbon intensity and compete on cost in target markets when compared with existing producers.

E25 expects its patent applications to be processed in 2024.

### About the E25 Process

Element 25 has developed an innovative, advanced processing flowsheet to convert Butcherbird manganese concentrate into high purity manganese sulphate monohydrate (**HPMSM**), a critical raw material for the manufacture of lithium-ion batteries. The proprietary flowsheet reduces energy consumption, virtually eliminates waste and delivers the lowest carbon intensity HPMSM globally based on publicly available information<sup>1</sup>.

The process offers a pathway to the delivery of expanding volumes of ethically sourced, traceable, transparent HPMSM supply to US markets. Element 25 is developing a first of its kind processing facility in Louisiana to produce up to 135Kt per annum of HPMSM for US electric vehicle (EV) supply chains<sup>2</sup>.

<sup>1</sup> Reference: Company ASX Release dated 21 February 2023

<sup>2</sup> Reference: Company ASX Release dated 12 April 2023

## About the PCT

The Patent Cooperation Treaty (PCT) enables applicants to seek patent protection internationally for their inventions by helping patent offices with patent-granting decisions. By filing one international patent application under the PCT, applicants can simultaneously seek protection across 157 nations of the world.

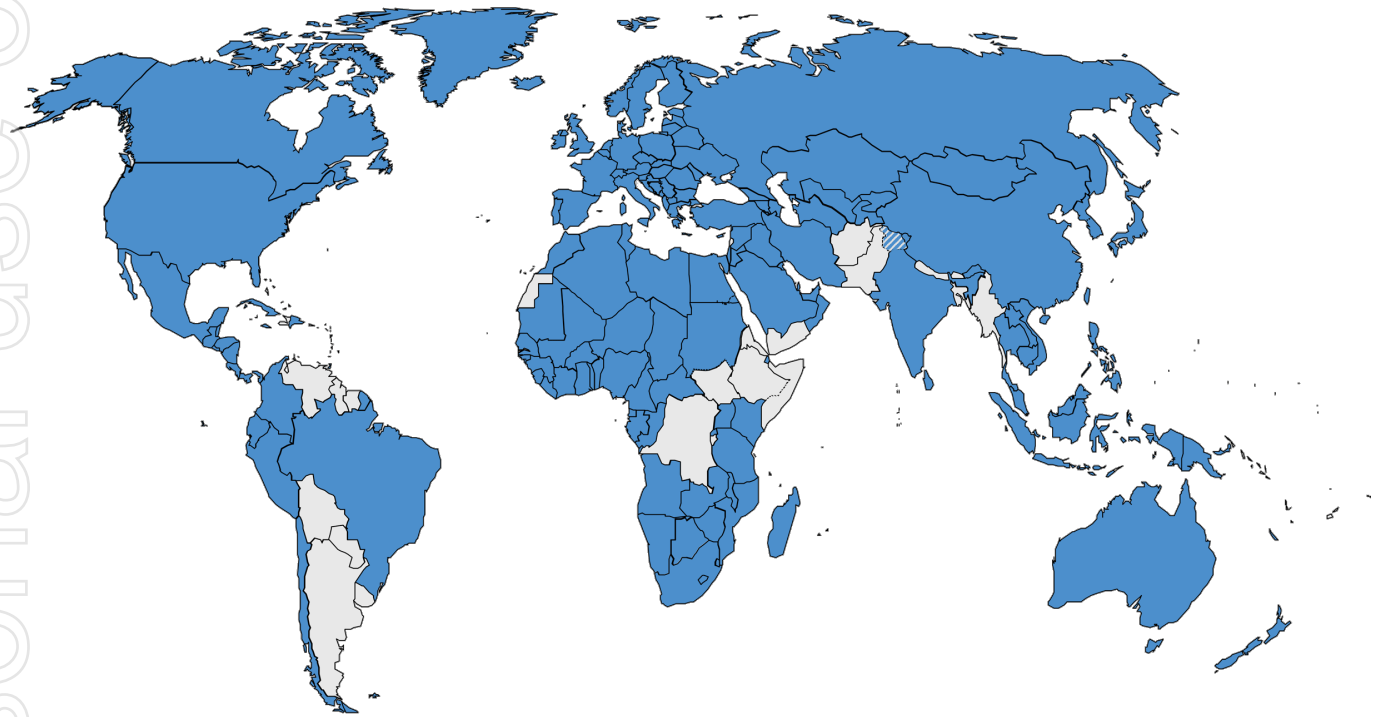


Figure 1. PCT Participant countries<sup>3</sup> are shown in blue

## About Element 25

Element 25 Limited (ASX:E25) produces a high silica manganese oxide ore from its 100%-owned Butcherbird Mine, located in the southern Pilbara region of Western Australia. The ore is mined with a core focus on ESG. Mining extracts material above the water table to minimise environmental impact, and processing uses water only to wash the ore and remove clays and other impurities. The concentrate is exported to international customers for processing into silicomanganese alloys.

The Company is currently building a processing facility in Louisiana, USA to convert the Butcherbird concentrate using its proprietary technology to produce high quality, low carbon, ethically sourced battery-grade, high purity manganese sulphate monohydrate (HPMSM), a critical raw material used in the manufacturing of electric vehicle (EV) lithium-ion batteries.

<sup>3</sup> Reference: World Intellectual Property Organisation - <https://www.wipo.int/pct/en/>

As the EV industry makes the expected shift to higher manganese cathode content to meet volume and cost requirements, the demand for HPMSM is expected to rise. Element 25's very large resource base, long mine life, and innovative, low-carbon processing technology will place it in an industry-leading position to capture significant market share in an expanding industry.

This announcement is authorised for market release by Element 25 Limited's Board of Directors. Company information, ASX announcements, investor presentations, corporate videos, and other investor material in the Company's projects can be viewed at: [www.element25.com.au](http://www.element25.com.au).

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