Critical Metals signs agreements with SSAB and Neometals to recycle by-products into high-grade vanadium products

Critical Metals has reached agreement with highly specialised global steel company SSAB\textsuperscript{1} to recycle by-products from the steel making process into high-grade vanadium products\textsuperscript{2}.

Critical Metals has also reached agreement with innovative project development company Neometals\textsuperscript{3} to evaluate the feasibility of the proposed recycling solution. Neometals believes its proprietary process has potential to place this vanadium project within the lowest quartile of production costs globally.

The recovery of metals from by-products in an environmentally friendly manner is very important for Europe. Critical Metals aims to use by-products from SSAB’s steel production and recover high-purity vanadium for use in energy storage solutions, principally vanadium redox flow batteries\textsuperscript{4} without the need to mine and process vanadium via traditional methods. The recycling process will be powered by renewable energy\textsuperscript{5}.

Approximately 75% of global vanadium supply is produced in China and Russia. The agreements signed by Critical Metals, SSAB and Neometals create a significant opportunity to supply the European vanadium market via recycling SSAB’s by-products.

The aim of the long term (10 year) slag supply agreement is for Critical Metals and Neometals to be processing slag from the SSAB steel mills in Oxelösund and Luleå in Sweden and Raahé in Finland by 31 December 2024. The agreement provides Critical Metals with access to at least 2 million tonnes of existing and future slag from SSAB steel mills. This provides a secure basis for the evaluation of a slag recycling facility capable of processing 200,000 tonnes of slag per annum without the need to build a mine and concentrator like existing primary producers. The vanadium grade at the SSAB stockpile in Luleå is ~4% $V_2O_5$ and at both Oxelösund and Raahé is ~3% $V_2O_5$ making it one of the highest-grade vanadium feedstock sources in the world.

Preliminary tests completed by Neometals on by-products from the SSAB steel mills during the last 12 months have confirmed up to 80% vanadium recovery from leaching under mild conditions. Neometals’ proprietary hydrometallurgical process has significant operational, cost and risk advantages over traditional pyrometallurgical (salt-roast) process routes.

The final location for the recycling plant will be decided after consultation with stakeholders in Sweden and Finland to ensure production by the due date.

In summary the high-grade vanadium feedstock is located at surface, adjacent to ports and excellent infrastructure in low sovereign risk jurisdictions, providing an opportunity to establish vanadium production in the lowest quartile position on the cost-curve, with no mining risk or beneficiation costs.

Critical Metals and Neometals have a very strong relationship and Neometals are the largest shareholder in Critical Metals\textsuperscript{6}. This recycling opportunity was introduced by Critical Metals to Neometals in early 2019. Neometals will fund and manage the evaluation activities up to consideration of an investment decision by 31 December 2022, which, if positive, will lead to a 50:50 incorporated joint venture. The anticipated cost of the studies to be funded by Neometals is ~A$5 million. Critical Metals will fund and manage the relationship with SSAB and all activities in Sweden and Finland. Neometals will be entitled to a gross revenue royalty on sales of vanadium products.

For further information please contact Damian Hicks, Executive Director (+61 419 930 087 and dhicks@criticalmetals.eu) or visit www.criticalmetals.eu.
About Critical Metals

Critical Metals aims to supply the European energy storage industry with metals from Scandinavia via urban mining (recovering metals from industrial by-product stockpiles) and traditional mining (discovering and extracting metals from the earth). [www.criticalmetals.eu](http://www.criticalmetals.eu)

About SSAB

SSAB is a highly specialised global steel company with production plants in Sweden, Finland and the US having annual steel production capacity of ~8.8 million tonnes. SSAB has been at the forefront of sustainability and plans to offer fossil-free steel to the market in 2026 and to eliminate all CO₂ emissions by 2045. In 2018, SSAB’s net sales totalled US$7.5 billion. SSAB is listed on the Nasdaq Stockholm (Large cap list) and has a secondary listing on the Nasdaq Helsinki. [www.ssab.com](http://www.ssab.com)

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1 The contracting parties are Recycling Industries Scandinavia AB, a wholly owned subsidiary of Critical Metals Ltd an unlisted public company based in Malå, Sweden and SSAB EMEA AB and SSAB Europe Oy, subsidiaries of SSAB.
2 Vanadium pentoxide or ferrovanadium.
3 Neometals Ltd is an innovative project developer registered in Australia and listed on the Australian Securities Exchange (ASX:NMT).
4 Vanadium redox flow batteries (VRFB) are a leading stationary storage technology.
5 Hydro and or wind power from Sweden and or Finland.
6 Neometals Ltd own 15.4% of Critical Metals Ltd. Neometals and Critical Metals also have an agreement covering the recycling of lithium ion batteries in Sweden, Norway, Denmark and Finland. Refer [www.criticalmetals.eu](http://www.criticalmetals.eu).