GRANGEX launches CIM – tailings to become raw materials for industry

The programme investigates how surplus materials from the company's mineral projects can be turned into secondary raw materials for industry.

GRANGEX AB (publ) ("GRANGEX" or "the Company") is launching the Circular Industrial Minerals Programme (CIM), a group-wide development programme for the recycling, processing and commercialisation of mineral waste streams. As part of the programme, GRANGEX is investigating how the tailings sand from Sydvaranger in Norway and the Apatite project in Grängesberg can be used as raw materials for industry rather than being sent to landfill. The aim is for the sand to be used as a substitute material in the cement industry, thereby helping to reduce the climate impact of cement production.

Through CIM, the projects – which have been running for several years – are being coordinated within a joint strategic development platform. At the same time, GRANGEX is building on the industrial and academic collaborations established since the work began.

As Sydvaranger is now being prepared for a restart, the tailings sand from the mine's future production is the top priority within the programme. By identifying uses for the sand, GRANGEX aims to gradually reduce and, in the long term, completely phase out the fjord disposal included in the mine's environmental permit.

Sydvaranger: three million tonnes of sand per year

When the Sydvaranger mine in Kirkenes restarts, the production of high-grade magnetite concentrate will generate approximately three million tonnes of tailings per year. The tailings consist largely of finely ground, silicon-rich and chemically stable minerals with very low levels of heavy metals and sulphur.

A feasibility study from 2025 shows that the sand can be diverted and dewatered with limited investment. Existing rock cavern silos in Sydvaranger can be used for storage, whilst the port of Kirkenes is used for shipment. GRANGEX therefore believes there are good prospects for finding circular and commercially viable applications for the silica sand.

The cement industry's transition opens up opportunities for new circular materials

Cement production accounts for around 7 per cent of global carbon dioxide emissions. The EU's emissions trading scheme, the Carbon Border Adjustment Mechanism (CBAM) and the industry's own climate targets are driving up demand for cement and concrete with a lower carbon footprint. Emissions come primarily from clinker, the binding component of cement. By replacing part of the clinker with other mineral materials that meet cement standards, emissions can be reduced.

If the silica sand from Sydvaranger can be processed to meet the requirements for reactivity, quality and durability, the environmental benefit will be twofold: the sand will not need to be sent to landfill and will, at the same time, contribute to lower emissions from the cement industry.

Further applications are being explored

Cement and concrete are the main focus, but GRANGEX is also investigating other applications. As a substitute for virgin silica raw material, the sand can contribute to a more circular raw material supply and enable energy savings. CIM is therefore investigating various areas of application, as well as how the sand can be processed into commercial products of the quality required for different applications.

Grängesberg: circular recycling of critical minerals

The CIM programme's second strategic initiative is the GRANGEX Apatite Project in Grängesberg. Here, apatite and other potentially valuable minerals are to be extracted from a historic sand deposit dating from the mine's former iron ore production. The apatite and other minerals in the deposit contain the critical raw material phosphorus, as well as potentially recoverable rare earth elements (REEs). Given the geopolitical situation and Europe's focus on securing a reliable supply of critical raw materials, GRANGEX considers the project to be of great strategic importance.

A scoping study involving laboratory and pilot tests has been completed, and work is now underway on the project's technical description, as well as preparations for an environmental permit application.

Within CIM, research is being carried out into how the residual sand left over after extraction can be utilised. As with the sand from Sydvaranger, GRANGEX sees great potential for the material as a substitute mineral component in cement and concrete.

Funding and next steps

Sydvaranger's planned project financing includes approximately USD 1 million for the continued development of applications for the tailings sand following the final investment decision (FID). To accelerate work prior to FID, GRANGEX is also exploring opportunities for external development funding, research collaborations and industrial co-financing.

GRANGEX CEO Christer Lindqvist comments:

"In parallel with the restart work, the recycling of tailings sand has been part of GRANGEX's planning ever since we acquired Sydvaranger in 2024. In Grängesberg, where we have been operating since 2021, we see the same opportunity to find new industrial applications for the remaining sand. Through CIM, we are bringing these initiatives together and taking the next step towards industrial applications, with the ambition of creating new value chains and utilising Europe's mineral resources more efficiently ."

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About Us

GRANGEX is a Swedish mineral development company with the vision to actively contribute to a sustainable society within Europe. The company strives to become the foremost mineral development group in Europe, developing and conducting responsible extraction and recycling of minerals, primarily iron ore products and other critical minerals for the green transition. Through its products, GRANGEX will contribute to a reduced climate impact while minimising its own environmental and climate impact.

The company's share (short name GRANGX) is traded on Nasdaq First North Premier Growth Market Stockholm, with G&W Fondkommission as Certified Adviser.

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