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## Environmental and Social Data Sheet<sup>1</sup>

### Overview

Project Name:	TALGA ANODE PRODUCTION
Project Number:	2022-0643
Country:	Sweden
Project Description:	The loan will finance an integrated graphite anode project powered by renewable energy, to produce low emission intensity anodes supporting green battery manufacturing in Europe.

EIA required: yes

Invest EU sustainability proofing required: yes

Project included in Carbon Footprint Exercise<sup>2</sup>: yes

(details for projects included are provided in section: "EIB Carbon Footprint Exercise")

### Environmental and Social Assessment

The project comprises the following components: a) a natural graphite mine with an annual ore mining capacity of 120,000 tonnes and a concentration plant, both located at Nunasvaara South, Vittangi and b) a purification plant constructed in the port city of Luleå, Northern Sweden and an anode plant in Luleå with production capacity of 19,500 tonnes per annum anodes "Talnode®-C" (coated purified spherical natural graphite). The project is phase 1 of the broader Vittangi operation of the Promoter.

#### Environmental Assessment

##### - *Compliance with the applicable Environmental Legislation*

Both components are listed in the Annex I of the EIA Directive and require preparation of environmental permit application with EIA concluded, under the national legislation (Environmental Code). However, the two components have been permitted separately.

##### Component a) mine - Nunasvaara South, Vittangi

The permit for Nunasvaara South mine includes all facilities at the mine (mine pit, mining, industrial area, internal roads, integrated waste storage facility etc). The EIA Report was

<sup>1</sup> The information contained in the document reflects the requirement related to the environmental, social and climate information to be provided to Investment Committee as required by the Invest EU Regulation and it represents the equivalent of the information required in the template of the InvestEU sustainability proofing summary

<sup>2</sup> Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO<sub>2</sub>e/year absolute (gross) or 20,000 tonnes CO<sub>2</sub>e/year relative (net) – both increases and savings.



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prepared in 2019-2020 and submitted to the Land and Environment Court, as competent authority, in 2020 and it is considered completed. The Land and Environment Court granted the environmental permit decision (including Natura 2000 permit) on 5 April 2023. The permit conditions include the necessary mitigation measures e.g., regarding noise, blasting, reindeer husbandry, construction and remediation, for loss of natural values. The final conditions to be applied for discharges of certain substances into water and emissions into air of dust, have been postponed for a trial period with the obligations for the Promoter to provide additional studies and monitoring measurements. The decision of the Land and Environment Court has been appealed and as a result, the environmental permit has not entered into force yet.

#### *Environmental Impact Assessment*

As part of the EIA Report, a detailed analysis of the alternatives for the best location for the mine's facilities was carried out and the chosen one provides the best possible location from an environmental, practical, and economic point of view. With the chosen alternative, the location and design of the industrial area has been optimized to limit the impact of noise, light, dust and odours from the operations.

Overall, according to the EIA report all significant impact of the project on environment are considered mitigated. The impact of Nunasvaara mine and its facilities refers mainly to:

#### *Water*

The wastewater from the planned activity of this component is discharged into the Lake Hosiojarvi, that when full, overtops into a creek (called the eastern creek in the application documents). West of the project area is another creek (called the western creek), both being tributaries to Torne River. The EIA Report identified a change in the chemical composition of the lake due to the expected increase of levels of certain substances (e.g. sulphate, calcium and chloride) as well as nutrients phosphorous, nitrogen and several metals that are also expected to increase slightly. The Eastern creek is expected to be similarly impacted as Hosiojärvi, but to a lesser extent. The EIA Report concluded that by implementing the mitigation measures proposed (e.g., the water treatment systems will be built to be able to process water with the goal of following the natural variation in water flows into the lake), the changes of water chemical quality would not cause a significant impact on aquatic organisms and that will not influence the concentrations into Torne River.

In addition, taking into consideration that the streams (east and west) and lake are considered as "other water" with no environmental quality standards in place, the competent authority decided to determine the final conditions that apply to relevant emissions into water after a trial period. The Promoter is required during the trial period to study technical, environmental, and financial conditions for limiting the relevant emissions from the operation to water and to measure the size of the flow from the clarification basin.

#### *Natura 2000 and biodiversity*

The mine site is located within the surface water catchment of the Natura 2000 site Torne River (SE0820430). A detailed baseline and an appropriate assessment as required by the art. 6 (3) of the Habitats Directive was carried out in 2019 and updated in 2021 to consider the new conservation objectives and the status of designated species. The competent authority confirmed that no significant impact will arise and thus granted a Natura 2000 permit.

In addition, an assessment has been made on the impact on protected and red-listed species, as well as species designated as of local importance for Norrbotten County. The species found within or in direct connection with the area of operation are all common in Norrbotten. The project component impact was estimated as low and therefore the conservation status of these species will not be affected. The Competent authority granted derogation under national Species Protection Ordinance for three clubmoss species that may be affected in the area:



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Spinulum annotinum (*Lycopodium annotinum*), *Lycopodium clavatum* and *Diphasiastrum complanatum*.

#### *Waste management*

The project component specific extractive waste (waste rock, tailings, and water treatment sludge) from first eleven years will be placed in a facility on the site and all the waste generated thereafter will be backfilled into the first three pits which will be excavated at that time. As part of the EIA report, a waste management plan was prepared by the Promoter, and it will be regularly updated. Other types of waste will be handled, stored, and disposed in line with the national legislation requirements.

#### *Air quality*

The impact on the air quality is mainly caused by emissions from diesel-powered vehicles, blasting, crushing of the rocks, during loading and unloading of waste rocks and during the transport in the area. The EIA Report provides mitigation measures to be implemented to reduce the impact on human health and air (e.g. road irrigation, speed limitations of ore transports). In addition, the permit granted by the competent authority requires the Promoter to follow up and monitor the dust emissions to determine the final conditions to be implemented.

#### *Mine closure*

The Promoter prepared a closure plan for the mine which describes how the rehabilitation of the mine will be carried out to ensure the compliance with environmental protection and land use requirements under mining legislation. The plan will be reviewed and updated regularly based on findings from in-house monitoring program as well as when new technology and techniques will become available to the industry.

#### Component b) Refinery

The Promoter has applied for an environmental permit for installation for production of battery anode material from graphite concentrate, located in a new industrial park, Luleå Industripark. The Promoter has submitted its application to the competent authority, Land and Environment Court. The process for obtaining the environmental permit is still ongoing. The activity will affect the water resources and a permitting application will be also included.

As part of the application for environmental permit, an EIA Report was prepared in 2022 and submitted to the competent authority.

Building permits for the site earthworks and the production buildings were granted in February 2023 and entered into force in March 2023, as there were no appeals/objections. A decision on the environmental permit is expected to be granted by the end of June.

Overall, the EIA Report concluded that the implementation of this component is considered to have a moderate impact on water, air and the use of land in comparison with the current situation.

#### *Water*

The refinery will use the cooling and process water from Inre Hertsöfjärden and discharge treated process wastewater together with heated cooling water to Sörbrändöfjärden via water pipes that will be built. The proposed facility is not expected to affect the ecological or chemical status of the nearest surface water bodies. The planned activities are also not considered to jeopardize the ability to reach current environmental quality standards. However, the project



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involves the release of substances (zinc and arsenic) at concentrations that may exceed the assessment criteria for good status, according to the national legislation, within a small area directly adjacent to the outlets. The project is not expected to affect the status of Inner Hertsöfjärden or Sörbrändöfjärden.

The impact of the refinery on groundwater will occur mainly during the construction phase, when the construction and installation of the plant will require local and temporal lowering of the groundwater surface by diversion or pumping. Also, the establishment of the facility will also entail a limited, but permanent, lowering of groundwater levels (corresponding to approximately 0.1-0.4 meters) in the area.

#### *Natura 2000 and biodiversity*

The refinery area is not located within any area protected under the national legislation. The nearest designated protected area is the nature reserve Ormberget-Hertsölandet, which is located about 620 meters north of the project area, on the other side of Hertsövägen. In addition to this, there is a national interest in nature conservation about 2.8 kilometres and two Natura 2000 sites designated under the Habitats Directive about 4.8 and 5.5 kilometres respectively from the planned area of activity. Considering that the land today is undeveloped, the construction and operation of the refinery is expected to have a moderate negative impact compared to the current situation. However, some changes of the vegetation and species in the area will occur, but without compromising the achievement of the environmental quality objective "A Rich Diversity of Plant and Animal Life", at national level.

## **Climate Assessment**

### **- EIB Carbon Footprint Exercise**

The project will deliver graphite anode material for the EU market and displace product produced primarily in China. The production sites in Sweden benefit from the decarbonised Swedish grid and lead to significant carbon savings compared to production with electricity from a fossil fuel-based grid in China.

The Absolute Scope 1 & 2 emissions are estimated at 19.5kt CO<sub>2</sub>e/year and the relative emissions are -74.9kt CO<sub>2</sub>e/year based on the Bank's carbon footprint exercise methodology.

The Project also represents a crucial step in the supply chain high-performance batteries in the EU which are key to the decarbonisation of the transport section.

### **Climate impact**

As indicated above, the anodes produced from this facility will have a significantly reduced carbon footprint compared to synthetic graphite anode alternatives manufactured in Asia. Furthermore, natural graphite is a critical raw material due to its supply risk and economic importance for the EU and the transition to low carbon transport.

The Project is considered as climate sensitive as the Project includes the construction of new infrastructure. However, the Projects has been assessed as not at risk from material physical climate hazards with the site being located at levels were there is no concern of sea level rise nor permafrost impacting the area. The buildings have been designed using standard Swedish design and construction methods to ensure snow loadings.

With the Project contributing to EU's transition towards a net zero economy, showing substantial avoidance of GHG emissions compared to the alternatives, and assessed not to be



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exposed to material physical climate hazards, it is considered to be aligned with both the low carbon and resilience goals and climate policy set out in the EIB Climate Bank Roadmap.

### **EIB Paris Alignment for Counterparties (PATH) Framework**

The counterparty is in scope but screened out of the PATH framework, because it is not considered a high emitting and/or high vulnerable counterpart.

### **Social Assessment**

#### Component a) mine - Nunasvaara South, Vittangi

The Nunasvaara south mine will have an impact on three Samebys, which are Sámi villages with statutory reindeer herding rights. The mine's area of operation, which has a total footprint of 1.5 km<sup>2</sup>, is located within the winter grazing lands of the Talma Sameby. The winter grazing lands of the Gabna and Saarivuoma Samebys are further respectively located to the south and to the east of the mine's area of operation. The existing Nunasvaara forest road which would be used for site access and transport is within both Talma Sameby's and Gabna Sameby's winter grazing lands. In the broader Project area, there are also four migratory routes designated as of national interest for reindeer herding by the Swedish Sámi Parliament.

The EIA conducted for the planned activities included reindeer herding analyses produced by the Talma and the Gabna Samebys with funding from the Project. In line with the Land and Environmental Court's decision, beyond the direct impacts on Talma Sameby's winter grazing lands (which will include permanent loss of access to grazing land following decommissioning, when three of the six mining pits will be filled with water), Talma's and Gabna's reindeer herding activities are further expected to be impacted during construction and operation by an increase in traffic, noise and dust formation along the Nunasvaara road. Saarivuoma Sameby will also be indirectly impacted from Project disturbances through an increased risk of mixing of reindeer herds. Lastly, the increase in traffic, noise and dust formation is further likely to have an impact on the migratory route of national interest located south of the mine, outside the Project footprint.

A number of mitigation measures are foreseen to minimise the impacts on reindeer herding activities. Mining activities will only take place during six months a year in the summer period, when the reindeer are not in the area to the same extent as in winter. Other measures include location and design considerations to avoid areas of national interest for reindeer herding and mitigation measures to minimise impacts related to traffic, noise, light, dust and odour during construction and operation. Upon completion of the mining operation, the Project intends to restore the area in consultation with the Talma Sameby and to further compensate affected Samebys for the increased costs for reindeer husbandry that the Project's operations will entail.

In addition, the Promoter is in the process of concluding the access/ownership arrangements for the mining operation with private landowners.

#### Component b) Refinery

275 km to the south of the foreseen mining operations, the planned Luleå anode refinery is located within the new Luleå Industrial Estate, which has been zoned for industrial development within the eastern boundary of the Gällivare Sameby's winter grazing area. According to the EIA conducted for the refinery, impacts on the Gällivare Sameby's reindeer herding activities



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are expected to be limited due to the Project's design and location near an already developed area, and include loss of access to grazing land and potential disturbances from noise, air emissions and increased traffic at the Project site and along transport corridors during construction and operation. The Promoter has initiated engagement with the Gällivare Sameby, which have agreed to undertake a reindeer herding analysis with funding from the Project.

## **Public Consultation and Stakeholder Engagement**

Consultation with authorities, organizations, stakeholders and the general public is part of the process of preparing an EIA in line with the provisions of the EIA Directive and national legislation. The Promoter conducted consultation during the period August 2017 to October 2019 (Nunasvaara mine) and during the period of April 2021 through to June 2022 (Luleå refinery). Key aspects identified in the consultation reports are related to potential impacts relating to water – discharges and groundwater drawdown, potential impacts of operating within the surface water catchment of a Natura 2000 area, management of waste materials and acid rock drainage, potential impacts on reindeer herding (Mine, including the broader Vittangi operation of the Promoter.) and potential impacts relating to water discharge, hazardous materials management and public safety risk, potential impacts from noise and emissions to air, transport impacts to and from the Luleå Industrial estate, including Luleå port, as well as potential impacts on reindeer herding (Luleå refinery). Comments have been considered in the Project design, permit application, EIA., etc and the checklist where reference is given to where answers to the comments expressed, is provided in the permit application documents.

Alongside reservations expressed by the Swedish Sámi Parliament, the Talma, Gabna and Saarivuoma Samebys objected to the planned mining activities during the environmental permitting process. When granting the environmental permit for the mine and after considering the Project's impact on reindeer herding, including in light of the Sámi submissions, the Swedish Land and Environment Court concluded that the Project does not significantly impact any areas of national interest for reindeer herding and that reindeer herding, and the planned mining operation can co-exist following the implementation of the proposed mitigation measures. The Talma and Gabna Samebys have applied to appeal the Land and Environment Court's decision.

In addition to the consultations undertaken as part of the EIA and environmental permitting processes to date, the Promoter continues to seek to engage and cooperate in good faith with the affected Samebys through a process of informed consultation and participation. While the affected Samebys' consent cannot be demonstrated in line with the Free, Prior and Informed Consent process, in particular considering the Sámi positions expressed most recently during the environmental permitting process for the mine and Talma's and Gabna's application to appeal, the Promoter intends to pursue its efforts to engage in good faith and reach agreements with the affected Samebys in connection with the project, including regarding compensation and benefit-sharing measures as relevant.

The Promoter is further committed to ongoing community engagement throughout the project's construction and operation, including with the affected Samebys, and has developed a Stakeholder Engagement Plan and established a grievance mechanism for this purpose.

## **Other Environmental and Social Aspects**

The Promoter has developed an Environmental Policy, a Social Performance Policy, a Diversity Policy and a Code of Conduct at corporate level, which also apply to the Project. The refinery



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pilot plant at Lulea is ISO14001 certified, and this will be expanded as required to the new operational sites.

As part of the EIA report, the fulfilment of the applicable Best Available Techniques conclusions under Industrial Emissions Directive 2010/75/EU for non-ferrous metals industries have been presented. Also, the rehabilitation plan for the closure of the mine uses principles from the Best Available Techniques Reference Document for the Management of Waste from Extractive Industries, in accordance with Directive 2006/21/EC (MWEI BREF).

Due to use and management of hydrofluoric acid, the refinery is subject to provisions of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances ("Seveso-III Directive") and is categorised in the upper tier establishment. A safety report and associated risk assessment have been produced for the operation as an appendix to the permitting application.

## Conclusions and Recommendations

The EIA Report and supplemental information provided as part of the environmental permit application contain the full description of the impact and associated mitigation measures. With planned mitigation and protective measures implemented, the environmental impact of the Project is considered acceptable.

Sustainability proofing conclusion: The Project was assessed against the InvestEU sustainability proofing requirements based on the EIA reports and the proposed measures that are expected to mitigate the residual environmental impacts following the applicable EU legislation. In terms of the social sustainability proofing, the Project is compliant with national legal requirements and the Promoter is managing the identified social impacts in line with its capacity and leverage. A number of mitigation measures to address the impacts on Indigenous Peoples have been put in place and the Promoter intends to pursue its efforts to engage in good faith and reach agreements with the affected Samebys, including regarding compensation and benefit-sharing measures. The Promoter will continue to engage with the Samebys. However, at the date of this ESDS, signed agreements that confirm the (conditional or nonconditional) consent of Indigenous Peoples have not been provided.

Considering the long period for obtaining the environmental permits, the final confirmation regarding the Project's consistency with the InvestEU sustainability proofing requirements will be provided after completion of the Bank's due diligence and prior to financial close.

This project is currently at stage 1 of the approval process and further due diligence is ongoing. This ESDS will be updated at the stage of financial close, at which time conditions and undertakings may be applied to ensure compliance with the requirements of the EIB environmental and social standards.