



Opening of Engebø Rutile and Garnet mine



GREENPEG Closure Conference

Trondheim, September 3rd, 2024

Ivar S. Fossum, CEO



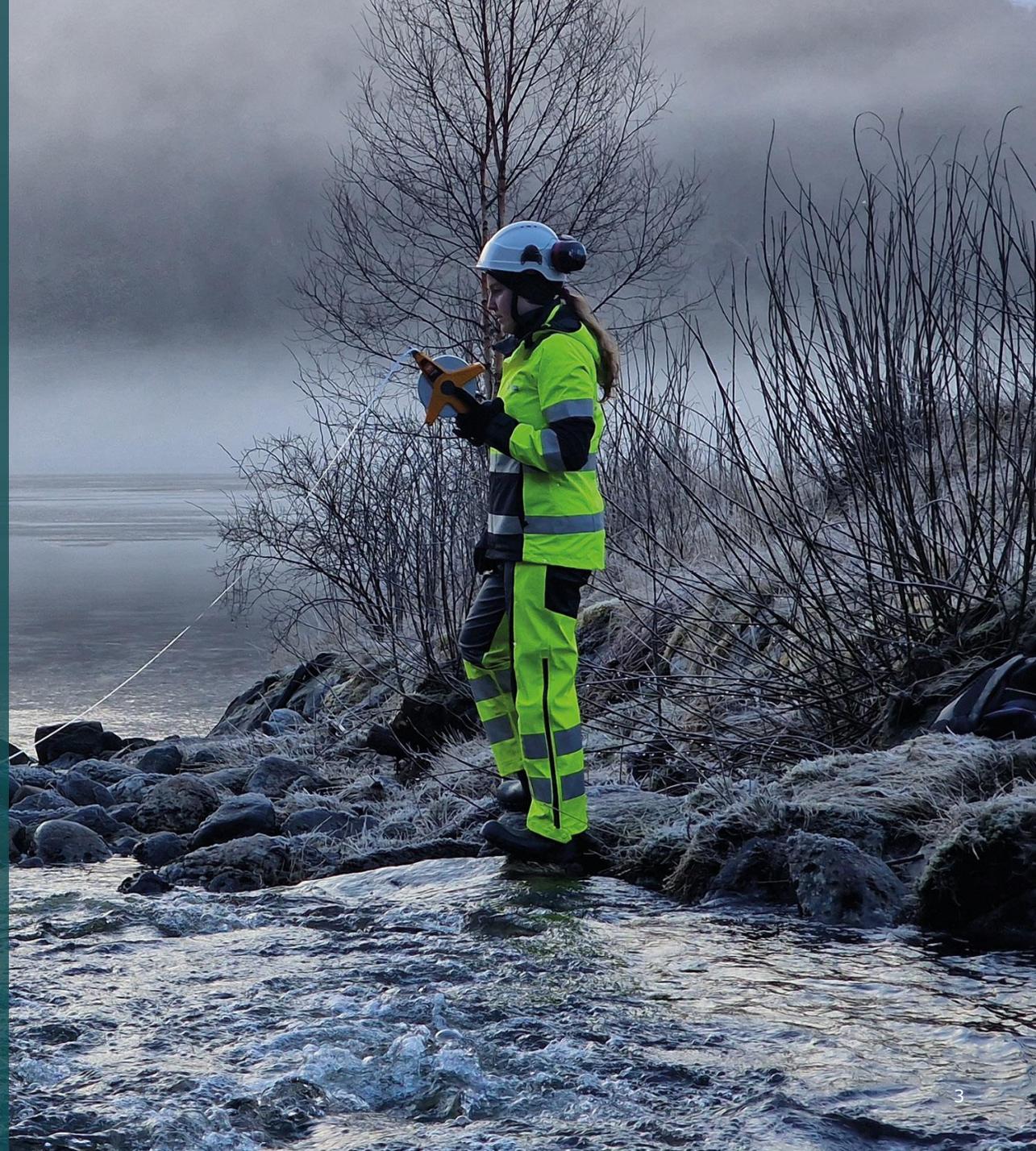
SAFETY | ENVIRONMENT | INNOVATION

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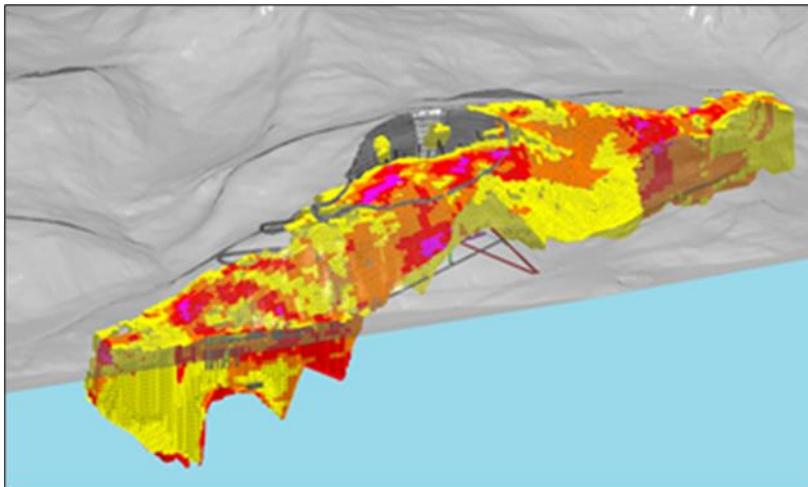
- About Nordic Mining
- Development of a new rutile mine
- Getting ready for production ramp-up
- Focus on sustainability



- Founded in 2006
- 14 800 shareholders
- Listed on Oslo Stock Exchange at Euronext Expand (NOM)
- Focus on production of high-end minerals and metals
- Constructing the first greenfield mine in Norway for several decades
- 110 employees at production ramp-up in Q4 2024
- Production of natural rutile(titanium dioxide) and garnet
- Mine life of 39 years (Initial phase)



Large resource gives basis for long-term industrial activity....



Engerbø Rutile and Garnet mineral resources

Mineral resources (2% TiO₂ cut-off)

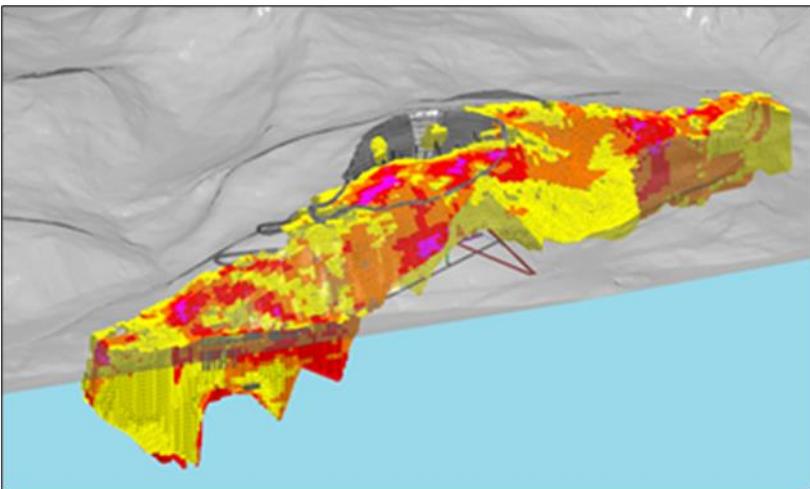
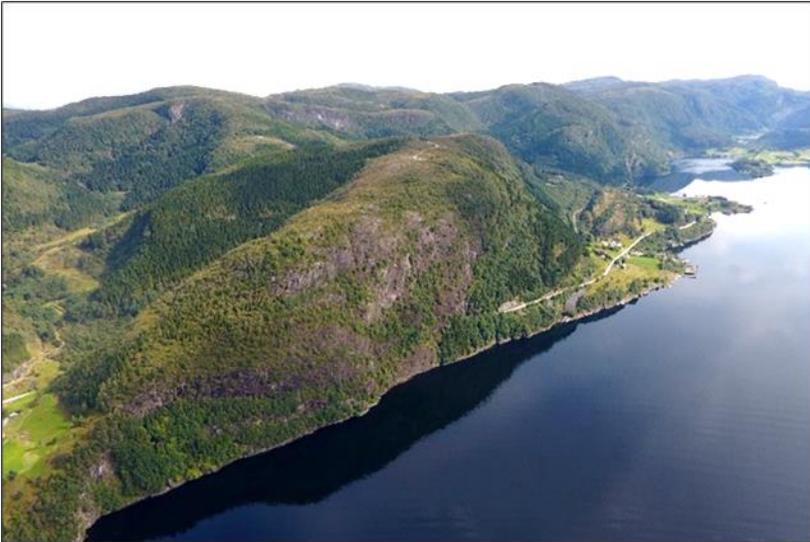
	Tonnes (Mt)	TiO ₂ grade (%)	Garnet grade (%)
Measured (M)	29.2	3.60	44.5
Indicated (I)	104.0	3.48	43.9
Total M&I	133.2	3.51	44.0
Inferred	254.1	3.15	41.3

Ore reserves

	Tonnes (Mt)	TiO ₂ grade (%)	Garnet grade (%)
Open Pit			
Proven (P)	19.33	3.56	44.25
Probable (Pr)	10.33	3.29	44.45
Total P&Pr	29.65	3.47	44.32
Underground			
Proven (P)	2.55	3.78	44.92
Probable (Pr)	24.75	3.66	44.42
Total P&Pr	27.30	3.68	44.47

Resource estimates (June 2018) completed by Competent Person Adam Wheeler, corresponding to the guidelines of the JORC Code (2012 edition)

... and location by the sea brings additional benefits

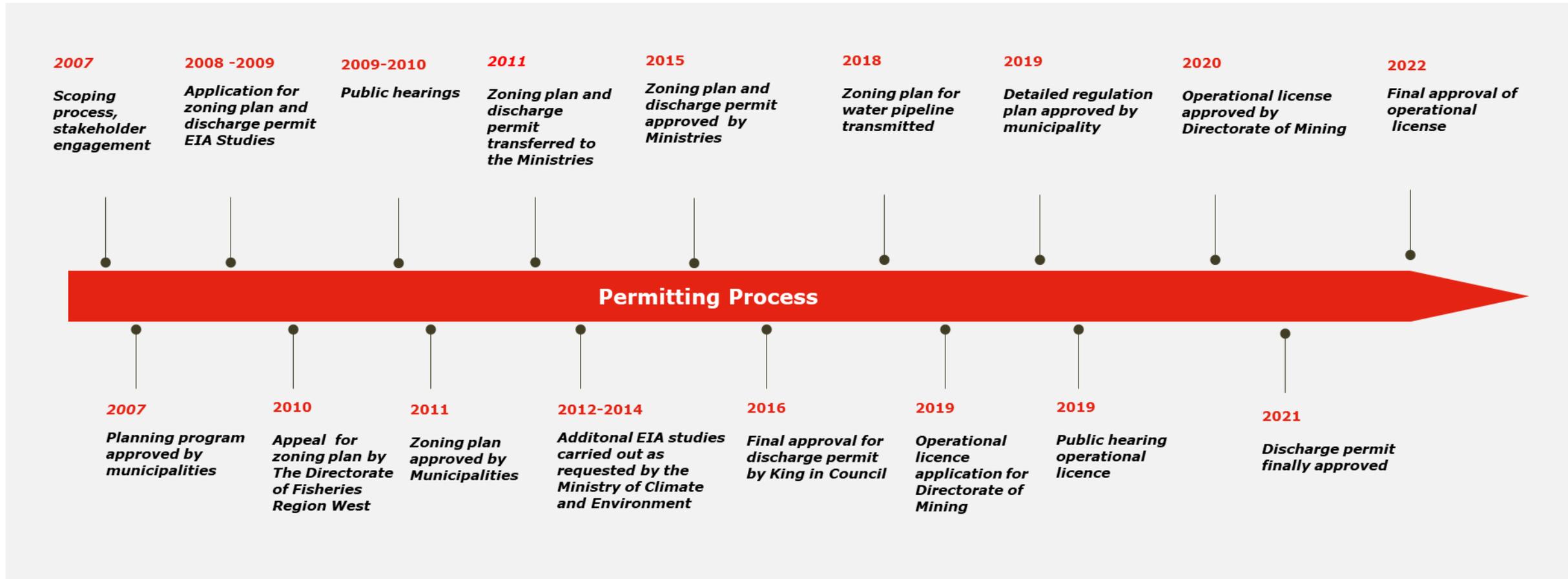


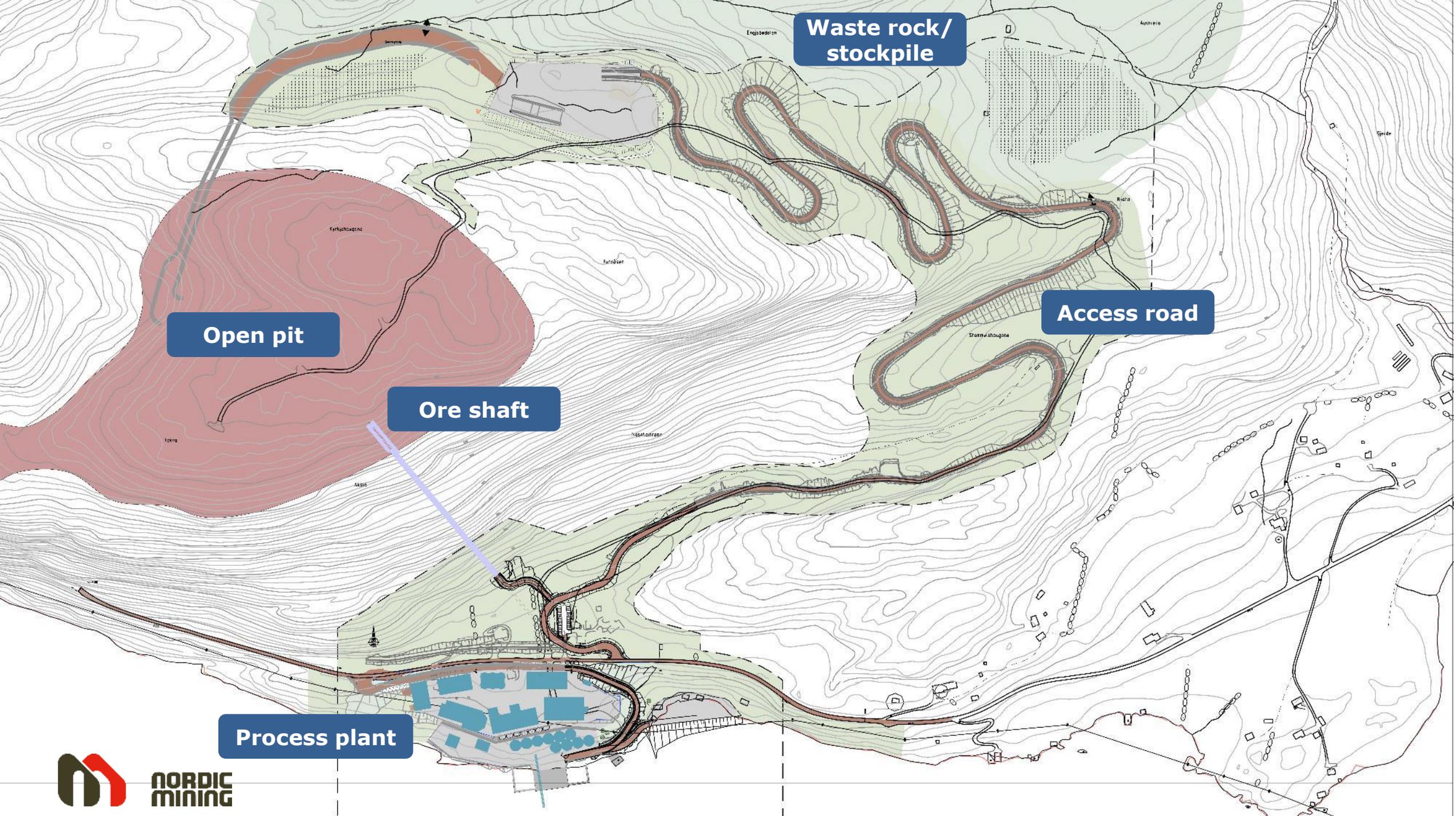
Accessible infrastructure is key



-  **Norway, a politically stable jurisdiction**
-  **Location by the North Sea provides advantageous logistics**
-  **Road access and two local airports**
-  **Deep-sea, ice-free quay on site**
-  **Renewable hydro power**
-  **Power supply readily available at site**
-  **40 minutes from Fårde regional centre**
-  **Region with skilled, industrial labor**
-  **Maintenance and service vendors available in the region**

After lengthy permitting, preparatory pre-construction work started in 2022 Project fully financed in March 2023





Waste rock/
stockpile

Open pit

Access road

Ore shaft

Process plant

Strategic producer of natural rutile and high-quality garnet

Rutile

Engebø will produce approximately 35.000 tons of natural rutile per year after production. Rutile is the purest form of titanium feedstock and the preferred feedstock for production of titanium metal. NM will sell rutile to both metal producers and producers of titanium pigment being utilized in wide range of applications.

Full production of rutile is covered by two offtake agreements to international customers for the first 5 years.

Garnet

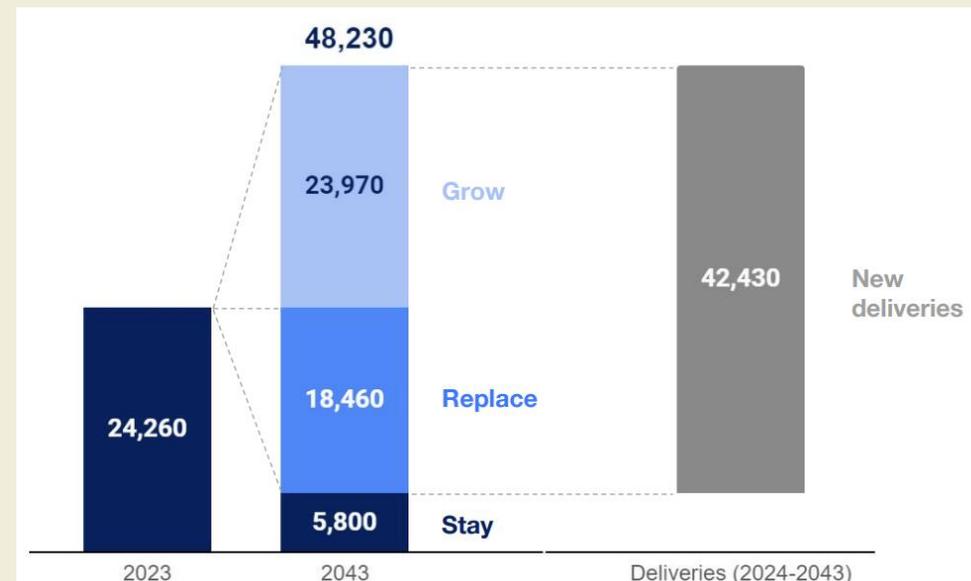
Production of will be up to 200.000 tons per year after a ramp-up period of 7 years. Almandine garnet is the most applicable type of garnet for use in water-jet cutting machines as well as an abrasive in sand blasting.

Engebø will be the sole producer of garnet in Europe and will export to main markets in Europe and North America. NM has a 5-year offtake agreement with Barton Group of US. Barton is a world leader in sales and distribution of high-quality garnet.



Source: Airbus

Global market forecast, plane fleet



Source: Airbus GMF 2024

NM cooperate with world leader Barton Group on garnet sales



Construction on schedule and cost for production ramp-up in Q4

- All process plant equipment (“CPIs”)¹ completed and delivered to site.
- The Civil and Buildings contractor Aasen & Øvrelid has started installation of the roof and wall panels on the last processing building as per the schedule. All major civil works has been completed.
- The SMPP contractor Nordic Bulk has finalized installation of main process equipment in all areas. Mechanical completion walkthrough executed for Primary Crushing unit and Comminution and Milling Plant.
- The E&I contractor Normatic is progressing on cable installation between MCC rooms and equipment in all areas. Automation System is fully up and running on servers with control room completed and ready for commissioning.



Health and safety

- No Lost Time Injuries (LTI) recorded over the project to date, with a total of 854 LTI free days.
- Over the last quarter, the project focused on closing up the buildings, allowing for greater safety control per area with average of 125 construction workers at site.
- Average of 160 construction workers is expected on site during Q3 as installations progress to mechanical completion and commissioning commencing.
- Majority of the remaining critical lifts were executed in the process water and product storage areas during August.
- Increased focus on safety regarding energization of plant and equipment as the project begins to transition from construction to commissioning.



Key Performance Indicator	2024	Project to date ³	Target
Lost time injuries (1/1 million working hours)	0	0	<2,5 ¹
Total recordable injuries (1/1 million working hours)	0	0	<8,8 ¹
High potential incidents ²	8	13	0
Low potential incidents ²	54	235	-

Commissioning of process plant has commenced

Executed in stages to progress area by area towards production ramp-up

Cold Commissioning



- Installation verification and dry starts of critical process equipment by equipment manufacturers
- Signals checking and verification between equipment and automation system
- Finalization and testing of all bulk material handling systems
- Filling and testing of all water lines and pumps



Hot Commissioning / start-up



- Operational and performance test of all Comminution equipment with ore to buffer silos
- Ramp-up of production when all mineral separation equipment is ready for ore
- Process engineers from Hatch will support operations team during production start-up to verify process design
- Engineers from manufacturers of critical mineral separation equipment will be present



Tuning of process plant



- Tuning of process plant to achieve full production capacity during 2025, in line with UDFS (Updated Feasibility Study)
- Support for optimization of crushing and milling circuit has been secured through agreements with Metso

Operations team are getting ready for production ramp-up



Recruitment

- 12 new team members started in August and 29 will start in September, increasing the head count in the operative organization to 71. New colleagues will onboard in October and November.
- The operations will have 110 employees after production ramp-up, including resources from the mining alliance agreement.



Operation Readiness

- Training of onboarding resources are a mix of on-site and off-site training. A dedicated training facility with lab scale equipment has been build in collaboration with local school to replicate the mineral process plant.
- Implementation of business systems for operations is in progress with enrolling in phases.
- Commissioning and operational spare parts is in procurement process with continuous deliveries to site.



Alliance agreement signed for mining operations with regional partner

- A 5-year mining alliance agreement has been signed with Sunnfjord Industripartner to deliver mining services for the operations at Engebø.
- The Alliance Partner's responsibility includes drilling, blasting, loading and hauling for the open pit operations, while the company is responsible for management of the mine design and schedule.
- The mining fleet will consist of, but is not limited to, articulated haulers, wheel loaders and excavators from Volvo, while Sandvik has been chosen as the drill rig manufacturer. The machinery will have digital capabilities to support the mining operations and to optimize the mining safety and ore quality while limiting the environmental impact.
- The Alliance Contract includes certain pre-defined targets with an element of profit and loss sharing related to those targets, incentivizing cost optimization and cooperation.
- The expected value of the contract is approximately NOK 450 million.



Environmental baseline updated through monitoring and surveys

Activity name	Supported by:
Water quality	DNV
Bathymetric mapping of sea bottom	Åkerblå (Now DNV)
Soft bottom survey	DNV
Beach zone survey	DNV
Subsea noise survey	DNV
Natural chemistry of sea water survey	DNV
Spawning area for cod	DNV
Visual mapping and inspection	DNV
Natural particle contamination in the fjord	DNV
Water Stewardship plan	SRK
Biodiversity Plan	DNV & Asplan Viak
Energy Management Plan	Sweco & SRK



Main environment and sustainability focus in 2024

- Monitoring and survey of the marine system to update baseline
- Development of water stewardship plan including solution for water quality, quantity
- Biodiversity impact documentation and mitigative measures has been followed up to secure execution of biodiversity action plan as developed in 2022
- Plan and strategies for following up Scope 1, 2 and 3 emissions has been developed as part of Energy Management Plan

Key design factors for carbon reduction and reduced environmental impact

- Conversion of natural gas fired dryers to hydroelectric dryers gave significant carbon emission reduction
- Approx. 2,4 MW electrical main heaters for rutile and garnet
- Minimum haulage distance for ore and waste rock transportation. 40-ton dumpers to run on biodiesel initially.
- 220 meters vertical ore pass from elevated pit to underground primary crusher.
- Robust water management solutions to secure collection and unwanted run-offs



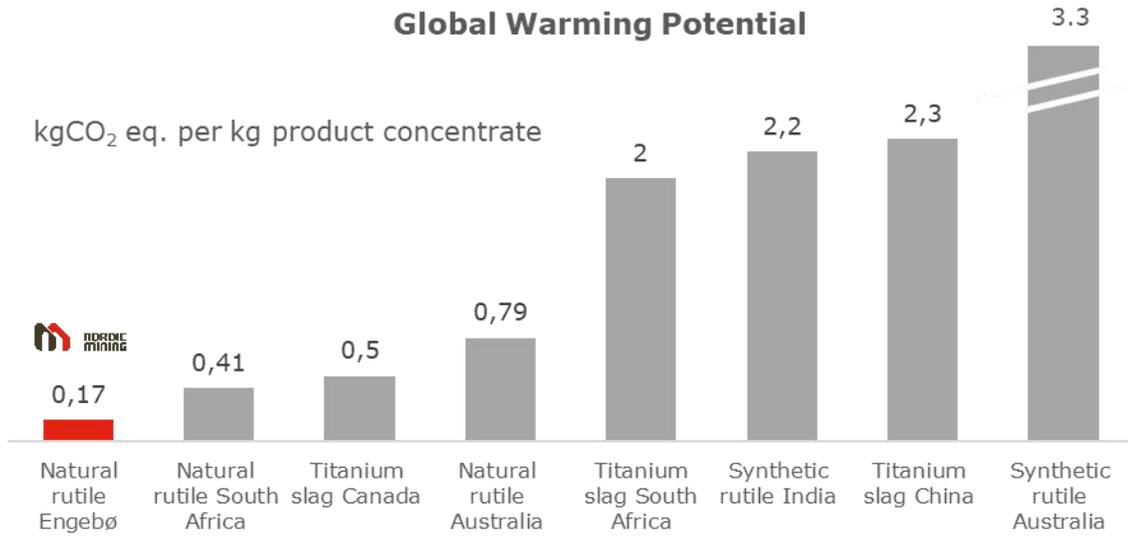
Production of titanium feedstock with record low CO₂ footprint



Industry leader on GHG emissions¹

Global Warming Potential

kgCO₂ eq. per kg product concentrate



Zero-emission process plants due to use of hydro electric power



Low energy consumption due to tight infrastructure and efficient design



Emissions reduced by 85% due to use of electrical dryers

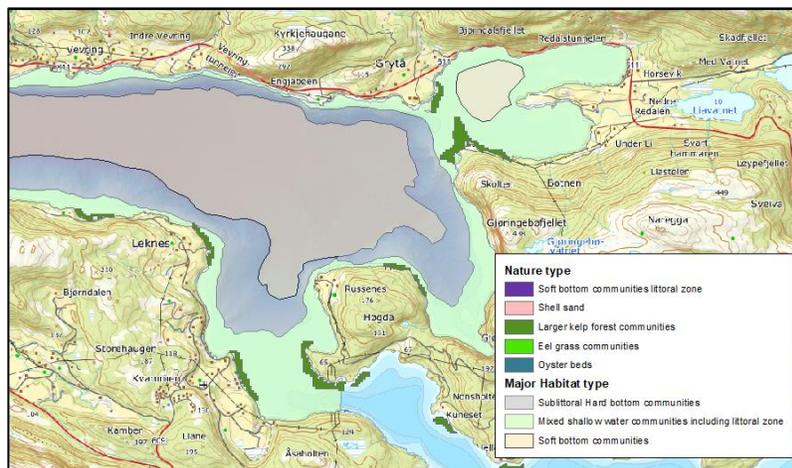
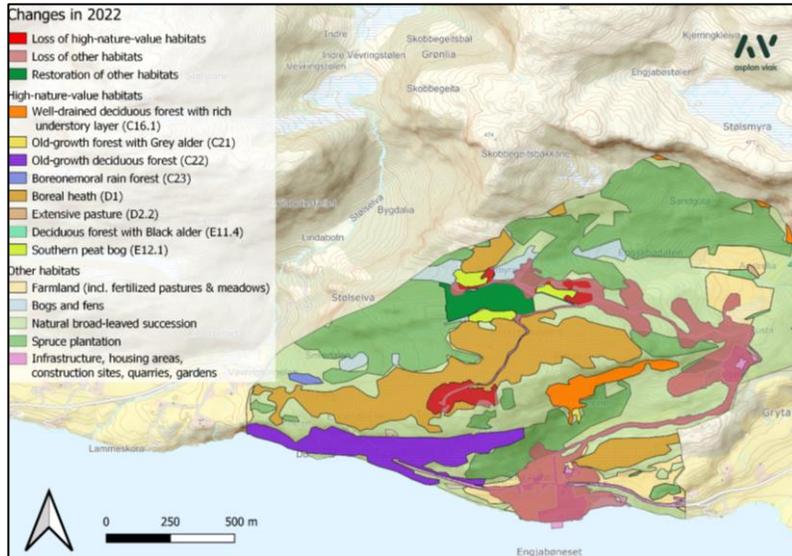


Work for zero emissions and phase out fossil fuel processes



Substantially lower GHG emissions from superior natural rutile product

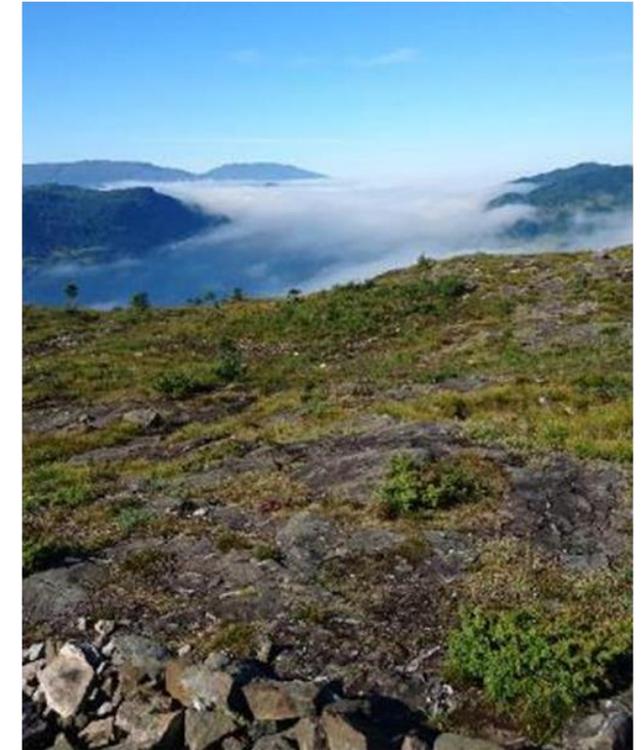
Focus on biodiversity – annual tracking of changes



- Nordic Mining has adopted a goal of net biodiversity gain over the life of mine for the Engebø project, aligned with the United Nation's goal.
- A Biodiversity Action Plan ("BAP") has been developed with support and collaboration with Det Norske Veritas ("DNV") and advisory company Asplan Viak.
- An interactive map with baseline terrestrial biodiversity habitats and impacts of the construction work, has been continuously updated and is reported to Management on an annual basis.

The Engebø project will report according to TSM from start of production

COMMUNITIES AND PEOPLE				ENVIRONMENTAL STEWARDSHIP			ENERGY EFFICIENCY
Indigenous and Community Relationship	Crisis Management and Communication Planning	Safety and Health	Preventing Child and Forced Labor	Tailings Management	Biodiversity Conservation Management	Water Stewardship	Energy Use and GHG Emissions Management
Community of Interest (COI) identification	Crisis management preparedness	Policy, commitment and accountability	Preventing forced labor	Tailings management policy and commitment	Corporate biodiversity conservation commitment, accountability and communications	Water governance	Energy use and GHG emissions management systems
Effective COI engagement and dialogue	Review	Planning, implementation and operation	Preventing child labor	Tailings management systems	Facility-level biodiversity conservation planning and implementation	Operational water management	Energy use and GHG emissions reporting systems
Effective Indigenous engagement and dialogue	Training	Training, behaviour and culture		Assigned accountability and responsibility for tailings management	Biodiversity conservation reporting	Water scale planning	Energy and GHG emissions performance targets
Community impact and benefit management		Monitoring and reporting		Annual tailings management review		Water reporting and performance	
COI response mechanism		Performance		Operation, maintenance and surveillance manual			



Safety – Environment - Innovation

Thank you!

