

Engerbø Rutile and Garnet



EN Expand Oslo: NOM

**NORDIC
MINING**

TZMI 2022, Singapore

Ivar S. Fossum, CEO

November 2022



EUROPEAN
RAW MATERIALS
ALLIANCE | **ERMA**

Disclaimer

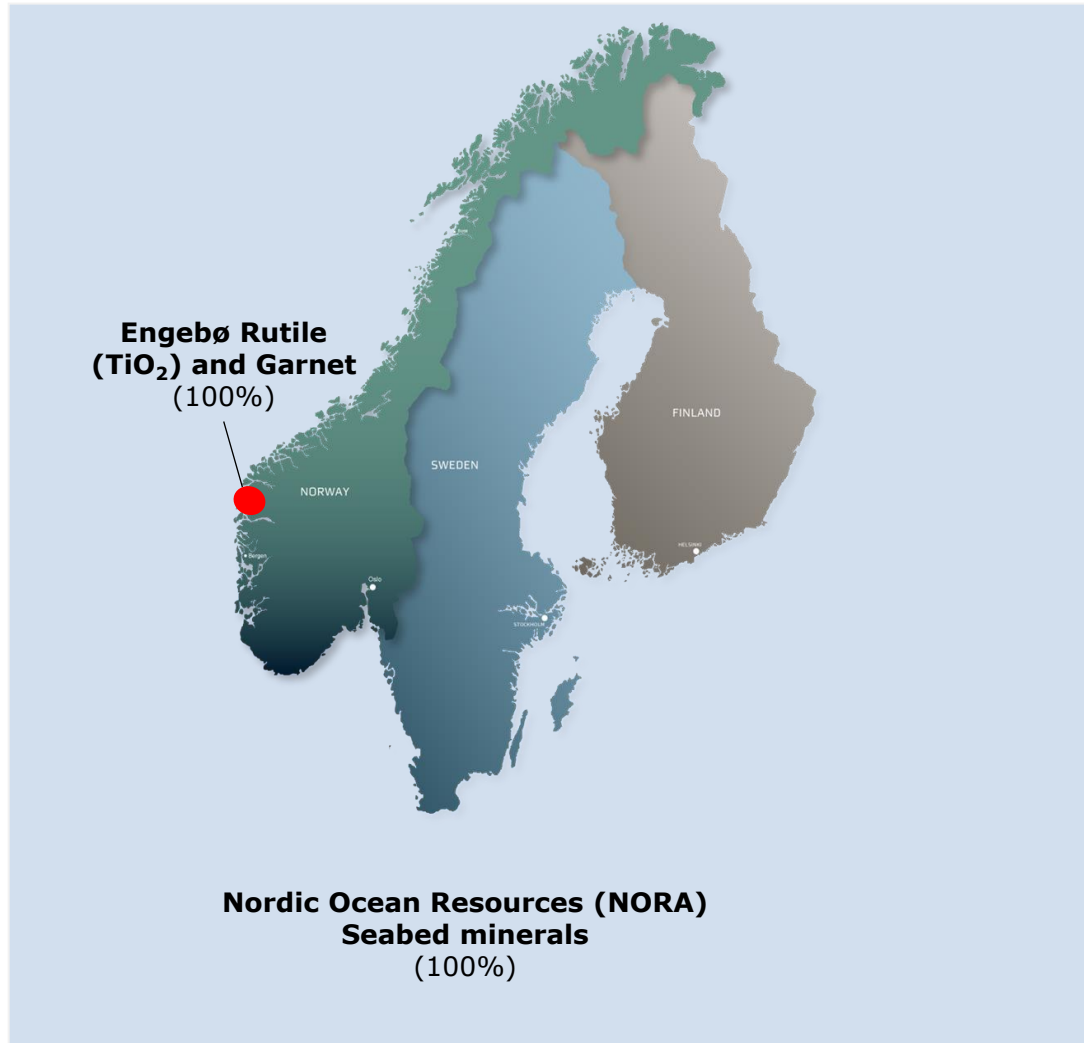
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- Company overview
- Project status
- Update on financing

Sustainable production of high-end industrial minerals and metals



R & D projects



Alumina

- Qualification of patented technology for green alumina production with integrated CO₂ consumption

Partners:



Funded by EU/Horizon 2020



Battery production

- Multi discipline research project with focus on critical steps of big scale battery manufacturing.

Partners:



Funded by Norwegian Research Council and industry

Building a Norwegian sustainable industrial company to deliver critical minerals

Fully permitted high-quality asset with low cost and industry-leading ESG profile



Engebø Rutile and Garnet project in Norway to produce for 40 years

Broad push from Norwegian industry, politicians and local communities for the sector – Engebø project will create more than 250 jobs¹



The Confederation of Norwegian Enterprise (NHO), Confederation of Trade Unions (LO), and the Norwegian Mineral Industry and Confederation

Strong political drive in the EU and Western world to increase security of supply



EU has released the Critical Raw Materials Act (Sep-22), and intend to establish Strategic Partnership with Norway on raw materials and batteries

Building a Norwegian industrial company by developing a green and sustainable value chain to deliver critical minerals to Europe and international markets

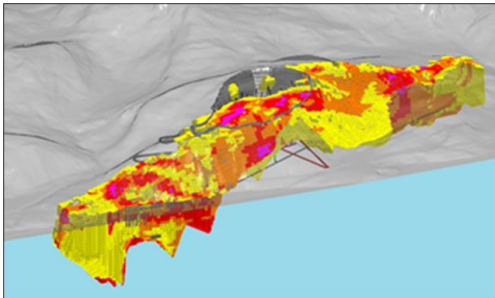
15 years of progress at the Engebø project, positioned for the next ~40 years

2006

Project initiated



2006: Acquired rights to the Engebø deposit



2007 – 2021

Studies, regulatory, permits and stakeholders



2009: Scoping Study completed

2015: Zoning plan and environmental permits granted

2016: Resource Estimation completed

2017: Prefeasibility study completed

2020: Defined Feasibility Study (“DFS”) completed

2021: Updated DFS (“UDFS”) with improved economics and ESG footprint

Defining project and securing regulatory and environmental permits under some of the strictest standards globally

2022 and onwards

Construction and long-term value-creation



2022: Final approval of Operational License

2022: Keliber stake sold for EUR 46.9 million

2022: Royalty Agreement with Orion Resource Partners

2022: New USD 100 million senior secure bond issued

2022: Full rutile production the first 5 years sold

2022: Nordic Mining’s mining license confirmed by appeal court

USD 211 million funding secured – positioned for ~40 years of production and value-creation

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Health & Safety

Key Performance indicator	Q3	Year to date	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	1	1	0
Low potential incidents ²	12	30	-



HSE status

- No injuries in Q1-Q3
- No incident when drilling into area with old explosives
- The Norwegian Labor Inspection Authority (Nw. Arbeidstilsynet) has carried out a document inspection of Nordic Rutile AS regarding the asbestos case. The result of the inspection was "no violation of the regulations"
- 4 risk workshops carried out

Incidents

- Dump truck incident
 - The dump truck partially overturned when reversing
 - No injuries to personnel, only minor injuries to truck
 - Investigation revealed a need to mark edges more clearly

Favorable location with available infrastructure

Location highlights

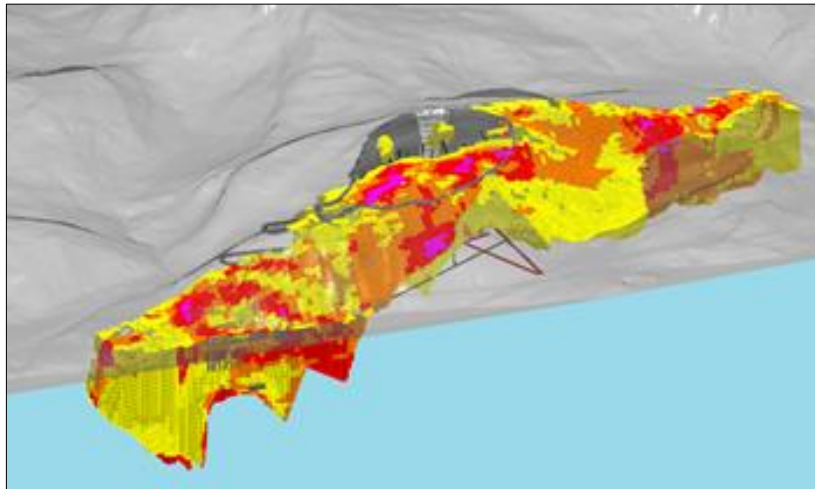
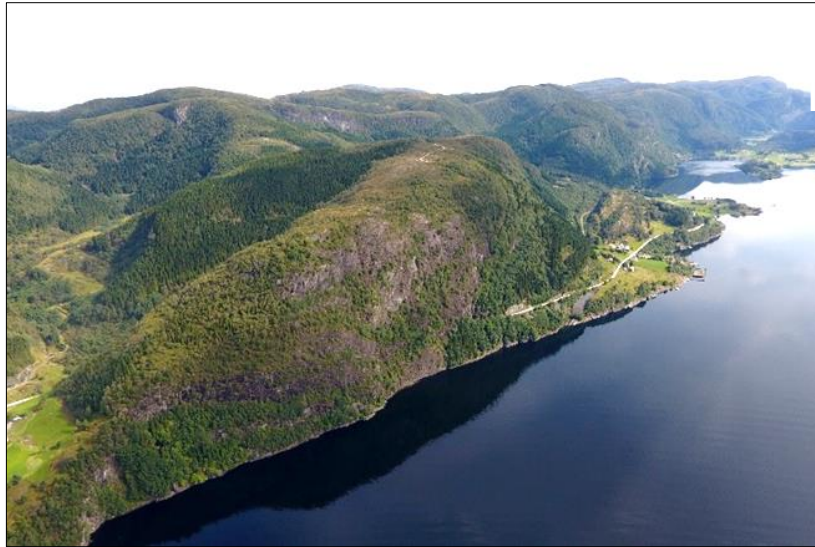
-  **Norway, a politically stable jurisdiction**
-  **Location by the North Sea provides advantageous logistics**
-  **Road access and two local airports**
-  **Deep-sea, ice-free quay on site**
-  **Renewable hydro power**
-  **Power supply readily available at site**
-  **40 minutes from Førde regional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



Area overview



Large deposit with unique characteristics



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

133 mt
M&I Mineral
resources¹

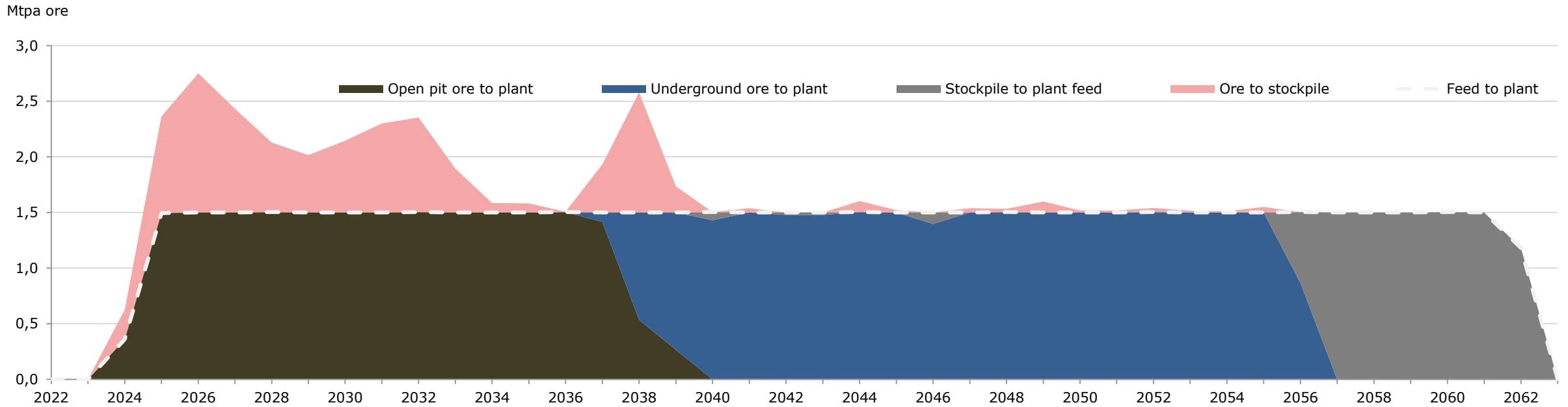
<5 years
Payback period

USD 453m
Post-tax
unlevered NPV8

39 years
Life of Mine

39 years mine-life with rapid ramp-up

Production profile

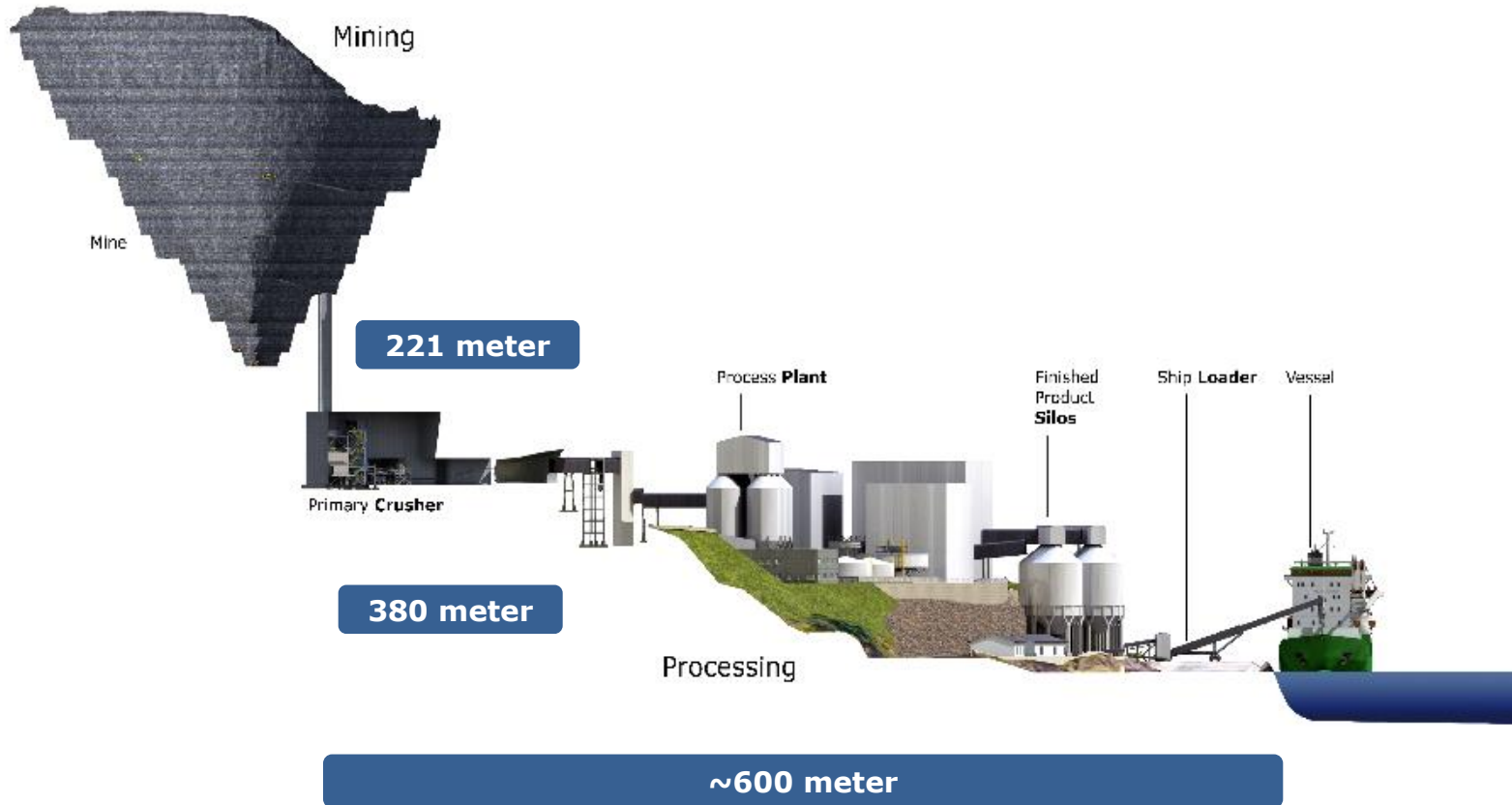


Open pit	
Ore to plant	20.39 Mt
Ore to stockpile	9.26 Mt
Plant feed grade	3.85% TiO ₂ / 45.44% Garnet
Life	15 years

Underground	
Ore to plant	27.42 Mt
Ore to stockpile	0.00 Mt
Plant feed grade	3.69% TiO ₂ / 44.49% Garnet
Life	18 years

Stockpile	
Stockpile to plant	9.26 Mt
Plant feed grade	2.70% TiO ₂ / 41.84% Garnet
Life	6 years

Mature project with efficient design and engineering solutions



- Short haulage distance from blast area
- Vertical shaft from open pit to underground primary crusher
- Shaft entrance adjusted when progressing mining in open pit

Location and topography provide for short ore haulage

Process plant area overview



Ore conveyor

Ore silos

Communtion/milling

Workshop

Admin

Wet plant

Dry plant

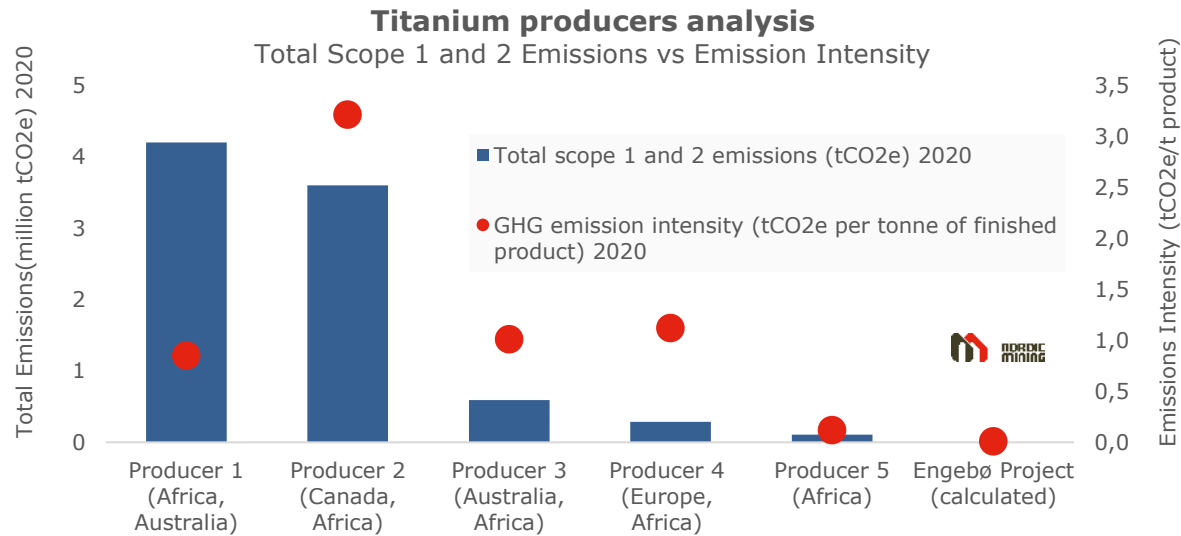
Tailing system

Product silos

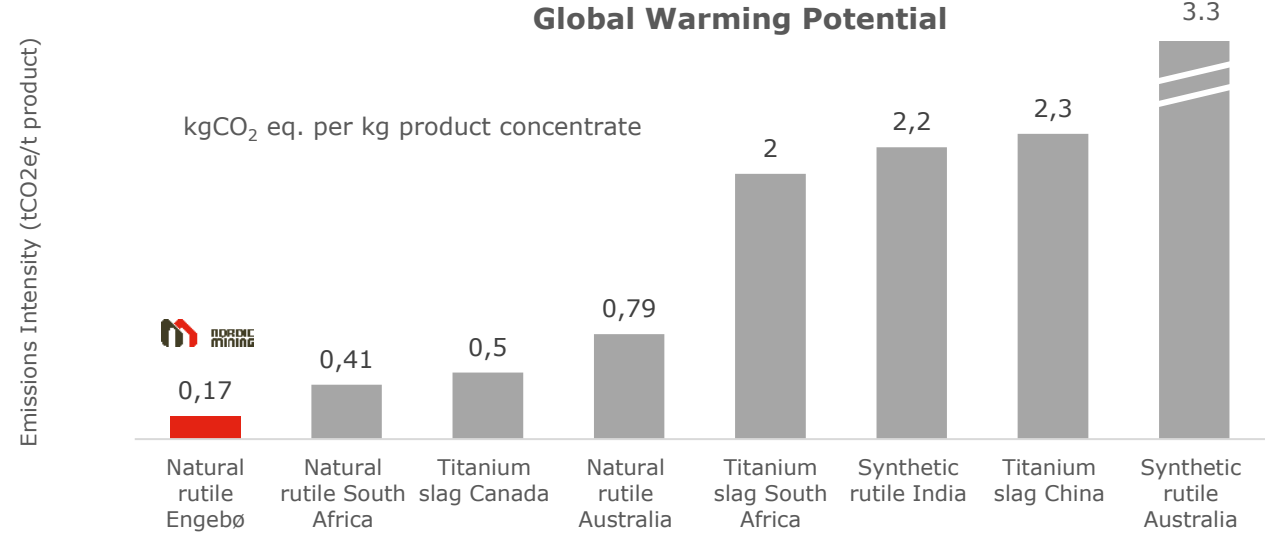
World's most climate friendly titanium feedstock ?



Industry leader on GHG emissions¹



Life Cycle Analysis proves superior rutile product²



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



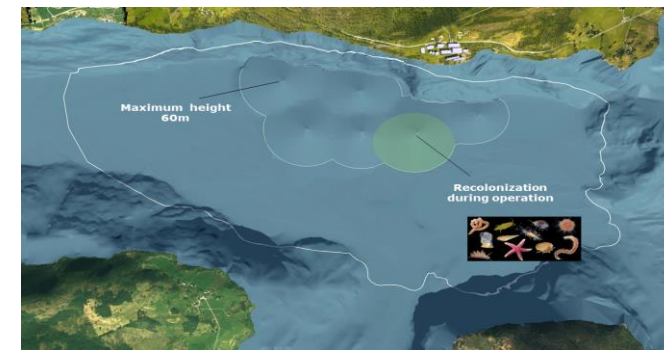
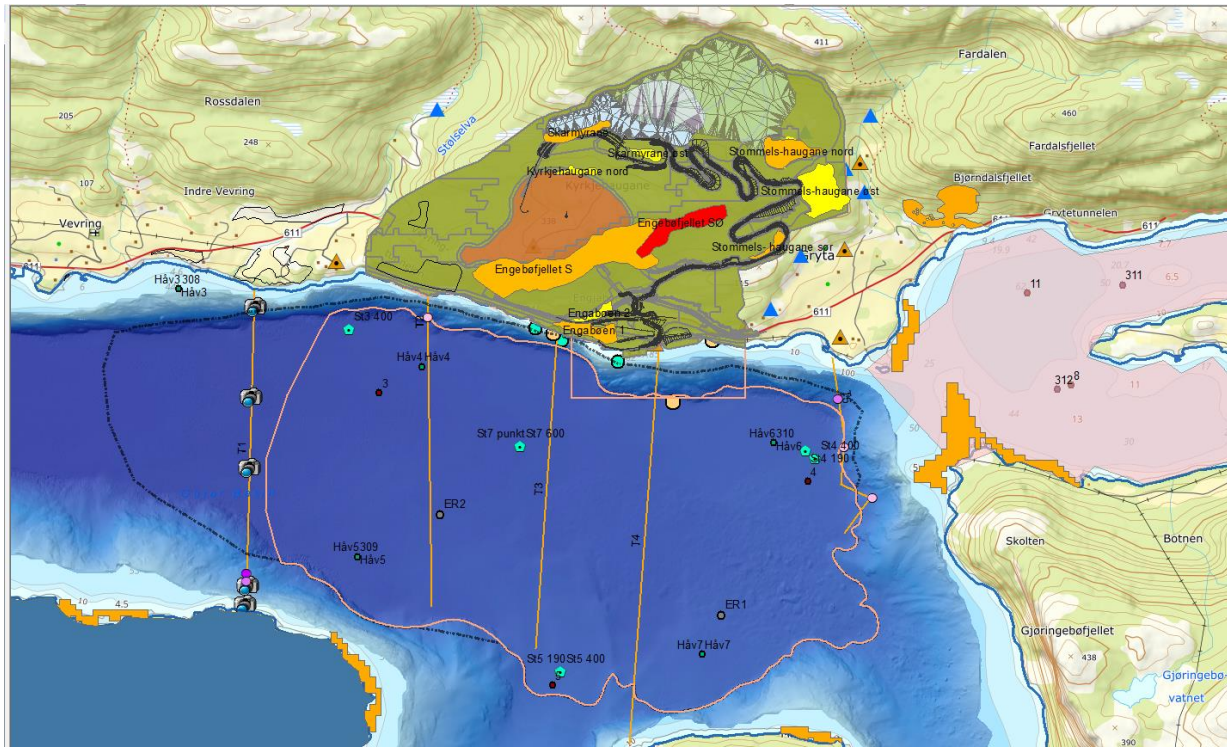
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Source: 1) SRK Consulting, UK (2021, including scope 1 and 2)
2) Minviro, UK (2022, including scope 1,2 and 3)

Focus on biodiversity

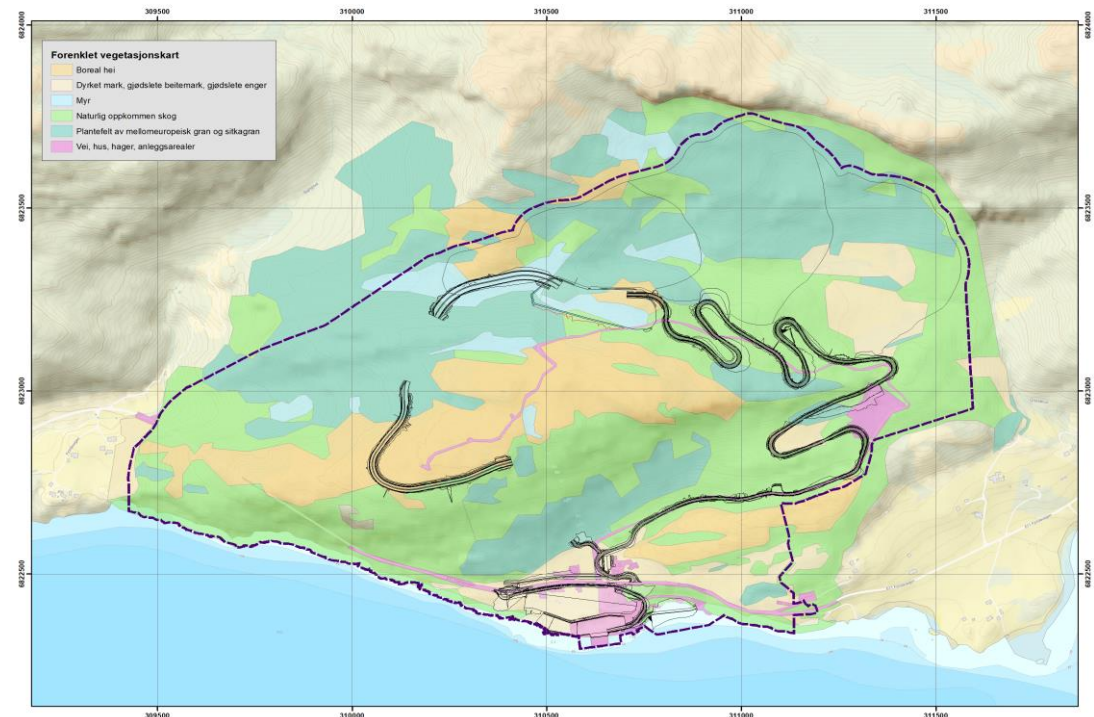
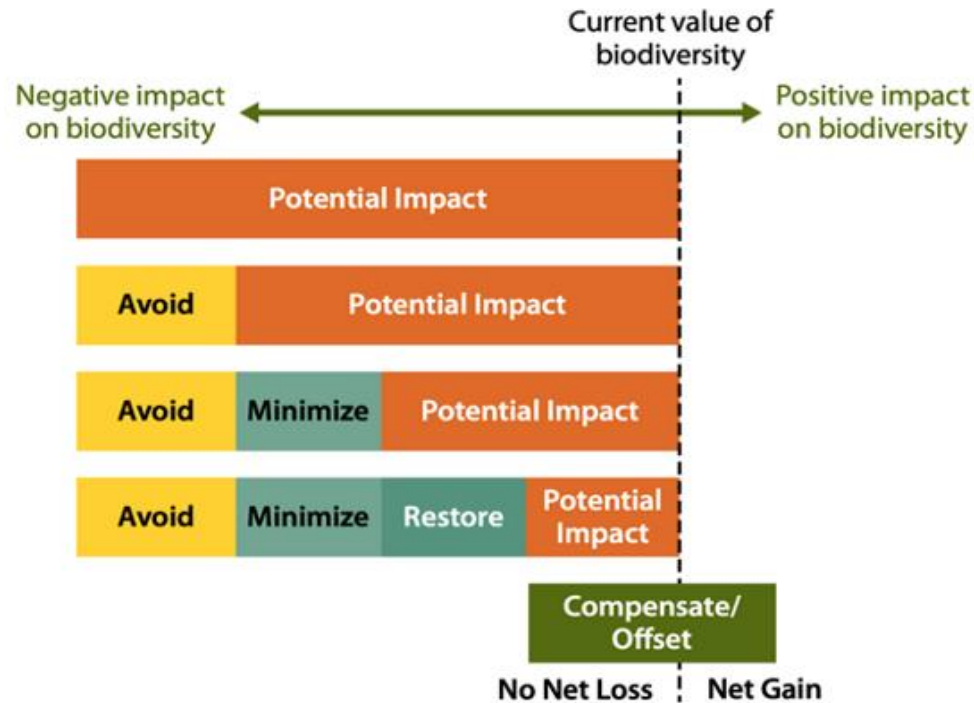
New methods for continuous tracking of biodiversity

- As a response to The UN Convention on biodiversity 'The Post-2020 Global Biodiversity Framework', the Engebø project has a goal of net gain for biodiversity over the Life of Mine
- A Biodiversity Action Plan is being developed in collaboration with DNV to implement systems to avoid, reduce, restore and compensate loss of biodiversity from our activities to achieve project goals



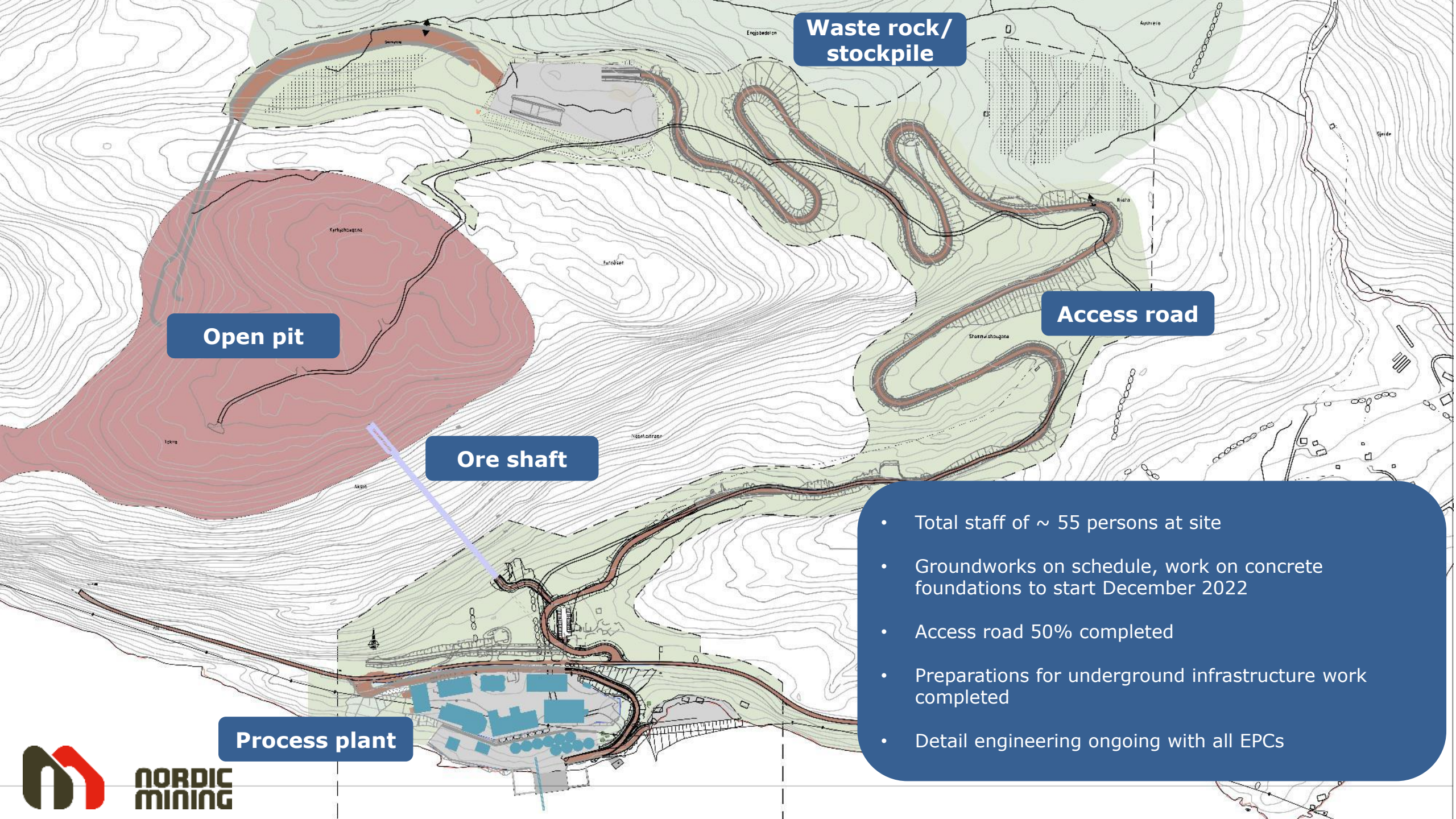
Possible to reach net-gain for biodiversity?

- Mapping and categorization of redlisted species, natural, modified and critical habitats
- Different habitat and species calls for different strategies
- Plans and systems to avoid, minimize, restore and compensate
- Actions initiated for construction phase



Preparatory groundworks progresses according to plan





Waste rock/
stockpile

Open pit

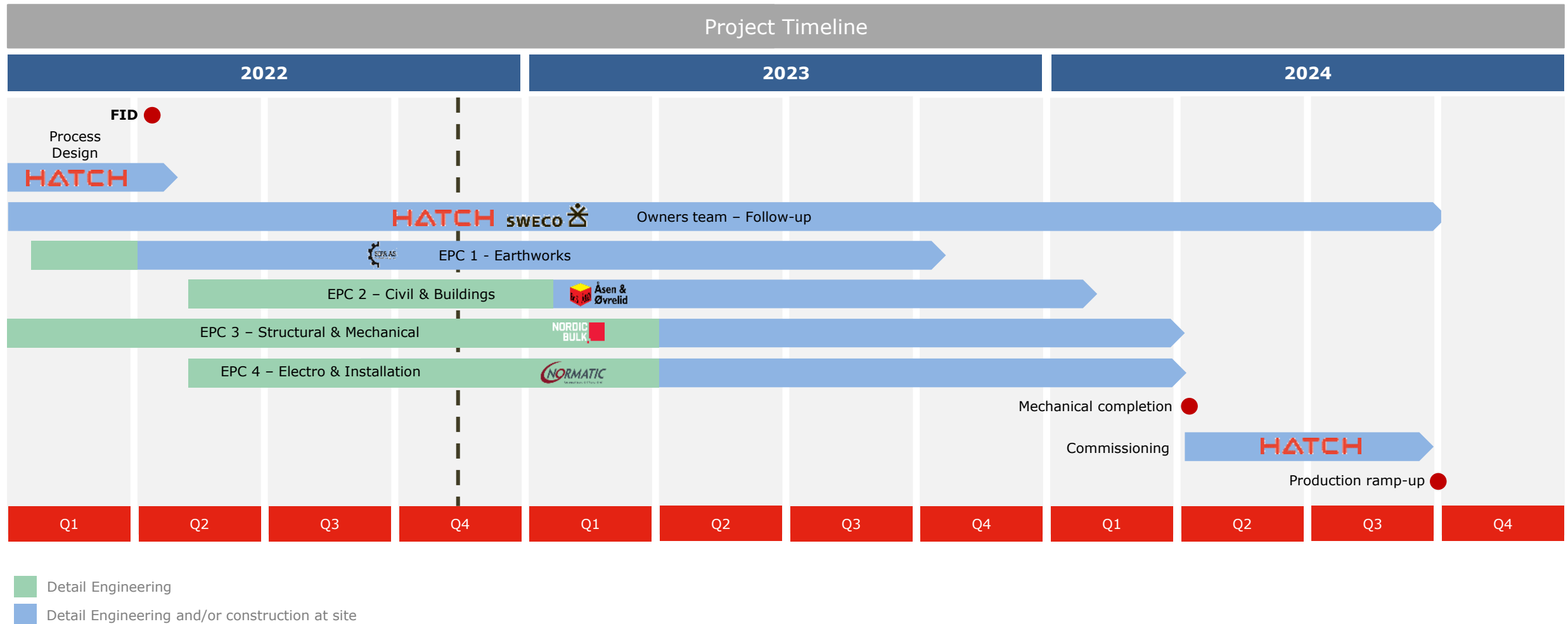
Access road

Ore shaft

Process plant

- Total staff of ~ 55 persons at site
- Groundworks on schedule, work on concrete foundations to start December 2022
- Access road 50% completed
- Preparations for underground infrastructure work completed
- Detail engineering ongoing with all EPCs

Early construction started H1'22 and on track to produce in 2024



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Material funding progress in 2022 from large financial and strategic partners

ORION | RESOURCE PARTNERS

USD 50m royalty (non-dilutive)
USD 5m equity commitment

Iwatani

Binding 5 year off-take agreement
USD 19m equity commitment¹

Nordic Bond

USD 100m bond raised
Global investor distribution: 45% US, 26% Scandinavia, 24% UK and 5% Central Europe

EPC partners

Consortium of local EPC partners
USD 16m Convertible Loan – used to fund acquisition of main properties and early construction work

USD 190m from large financial and strategic partners during 2022

EUR 46.9m in equity through sale of stake in Keliber

Extensive technical, commercial, legal and financial review²

HATCH

GOLDER
MEMBER OF WSP

**PETER W
HARBEN**
Industrial Mineral Consultants

THOMMESSEN

NORTON ROSE FULBRIGHT

SLR

TZMI

TIPMC Consulting


KVALE

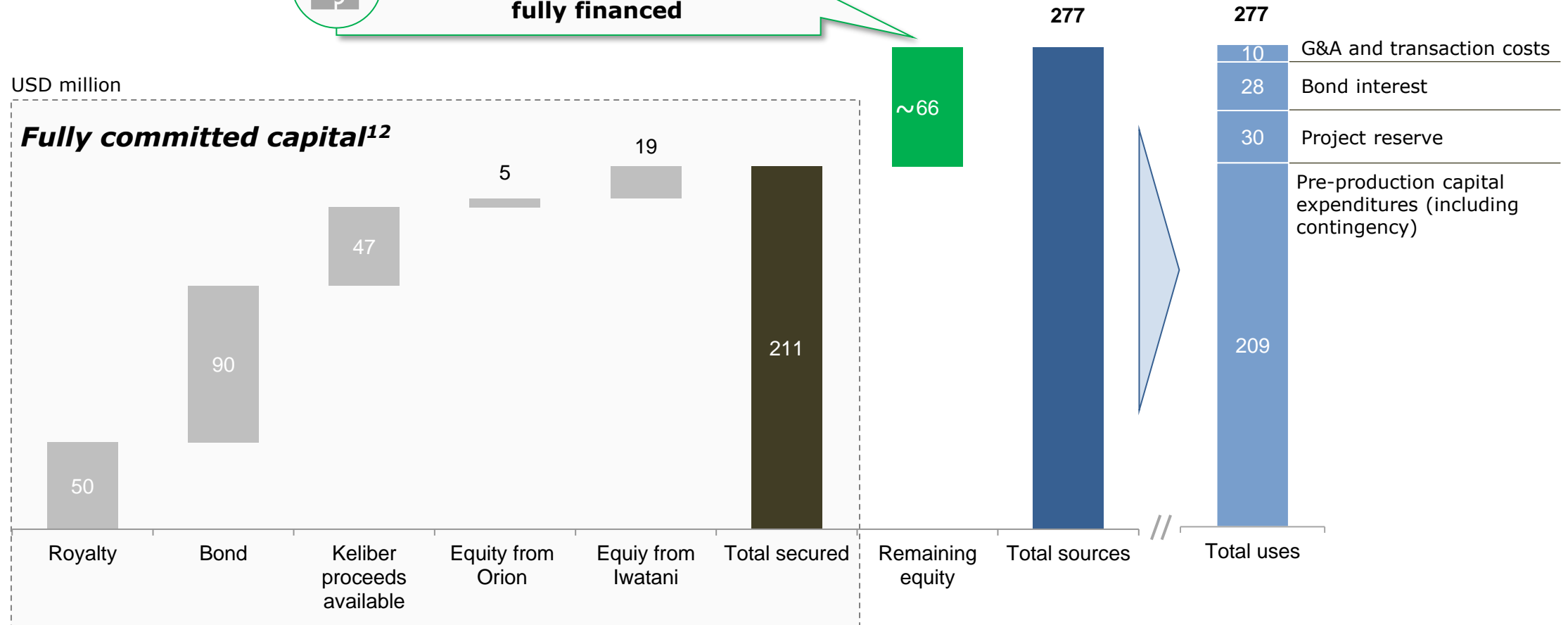
EY

**simmons
+simmons**

Wiersholm

Significant progress on financing in 2022 – less than 25% in equity remaining

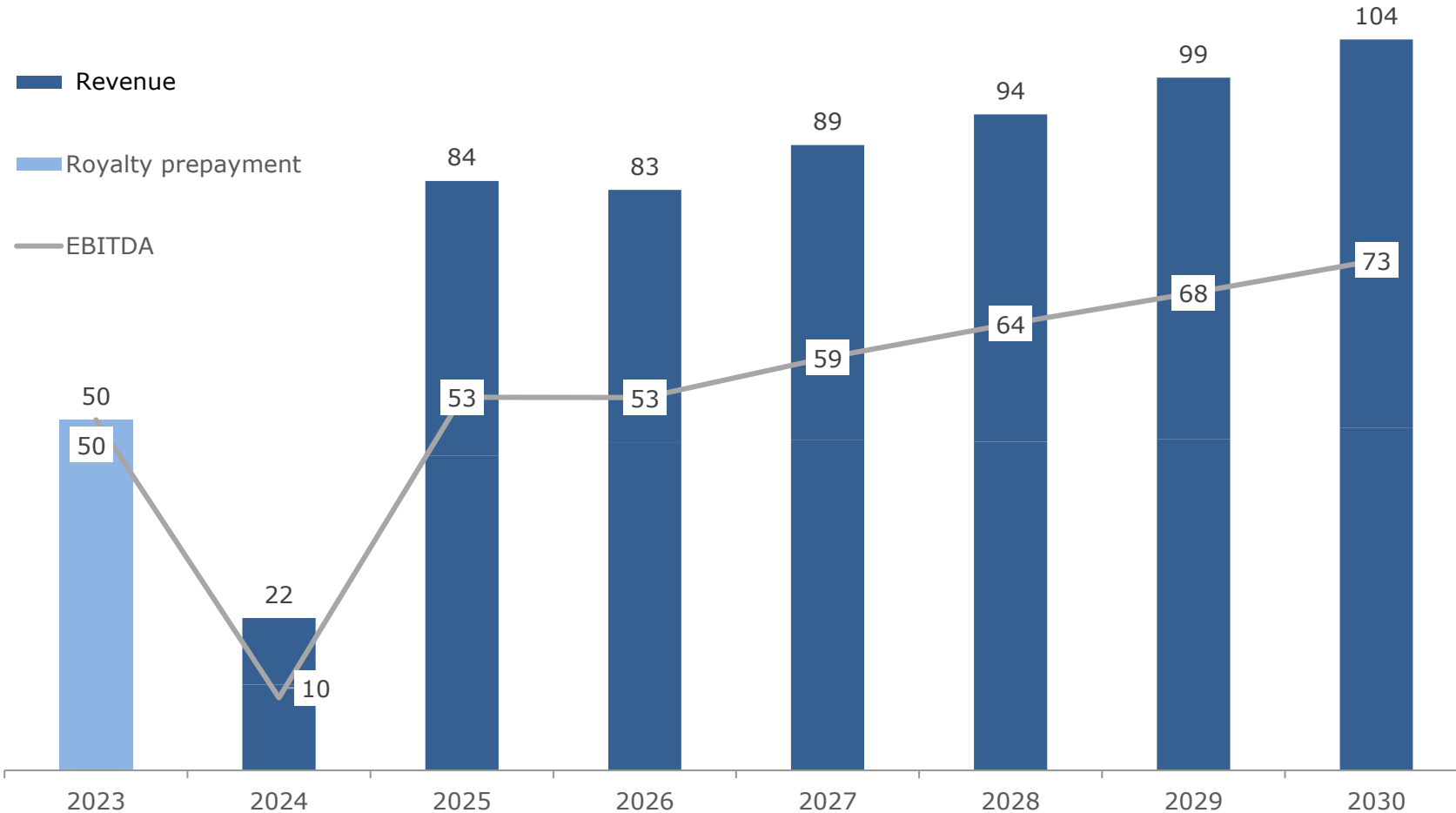
 **The remaining equity raise is the last piece of the puzzle to become fully financed**



Forecast for solid revenue and low cost, provides substantial EBITDA¹

USD million

+39 years revenue and EBITDA generation →



Total revenue of USD 624 million from 2023-2030



Avg. EBITDA margin of 65% from start of production



Majority of revenue secured by offtake agreements



1) EBITDA assumes USDNOK of 9.68 and accounts for 11% of revenue being paid as royalty to Orion

Significantly improved economics, NPV8 increased by > 70% since UDFS

USD 453m

Unlevered post tax NPV₈

24.4% IRR

Unlevered post tax

USD 62m

Avg. annual EBITDA '25-'30³

USD 50m

Avg. annual free cash flow '25-'30³



LOCATION

Stable and supportive policies towards mining operations

Attractive shipping logistics to Europe



RESOURCE

133.2 Mt measured and indicated resources¹ (254 Mt inferred future resources)

3.51% TiO₂ grade and 44% garnet grade¹

~39-year LoM with 1.5 Mtpa ore feed to plant)



INFRASTRUCTURE

Excellent infrastructure with access to **renewable hydroelectric power**

Good **access to regional skilled/industrial labor** and maintenance/service vendors



PROJECT READINESS

Fully permitted project With strong fundamentals confirmed in UDFS

Fully de-risked and efficient project design (extensive test work carried out)



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Thank you!