FINNISH MINERALS GROUP
SUOMEN MALMIJALOSTUS

ANNUAL REPORT 2022

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The mission of Finnish Minerals Group is to responsibly maximise the value of Finnish minerals. We manage the State's mining industry shareholdings and strive to develop the Finnish value chain of lithium-ion batteries. Through our work, we contribute to Europe moving towards electric transport and a more sustainable future.

Layout: Graphic Room
Digital printing: Grano

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Materials for climate neutrality

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Responsibly maximising the value of Finnish minerals

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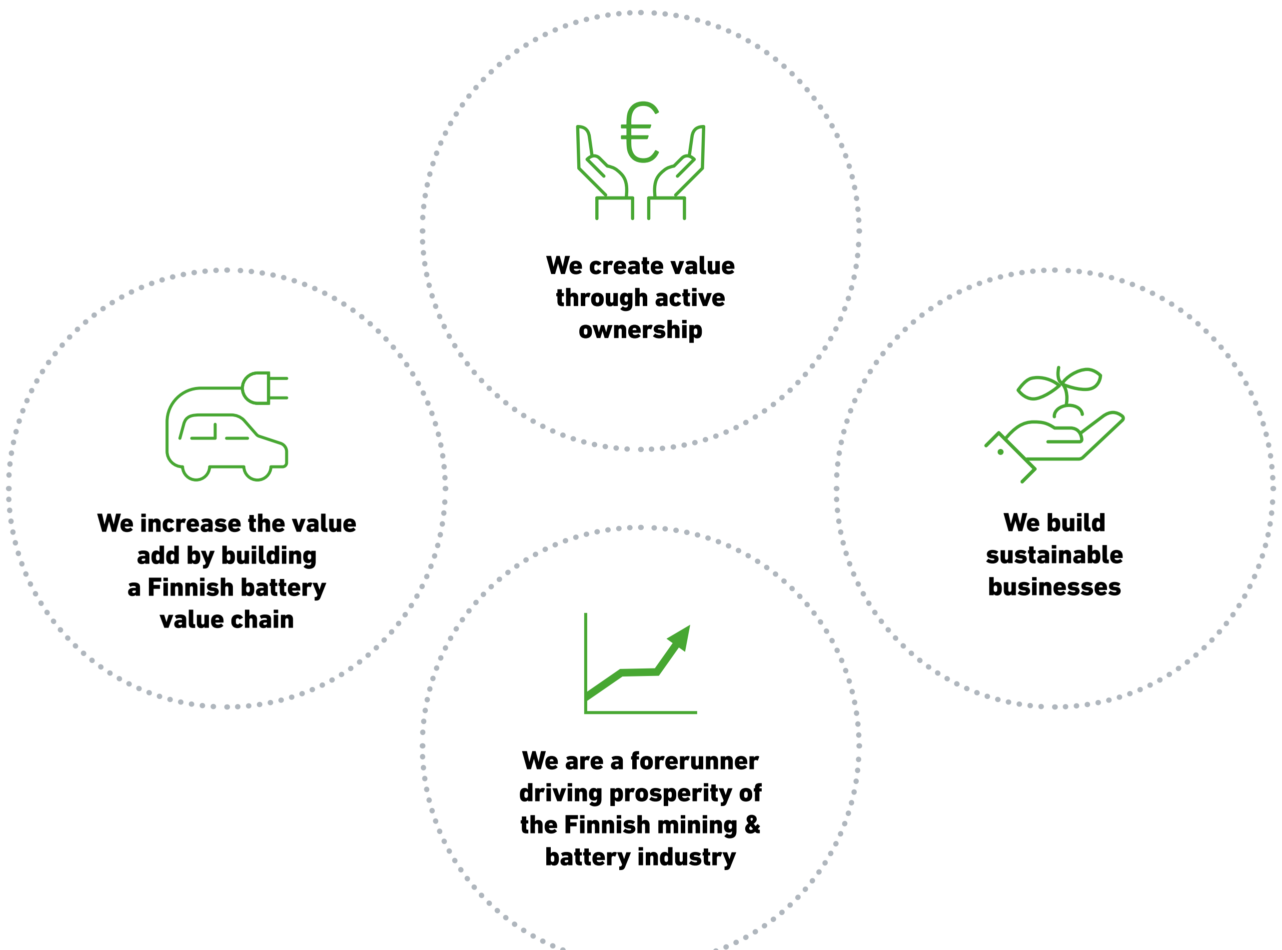
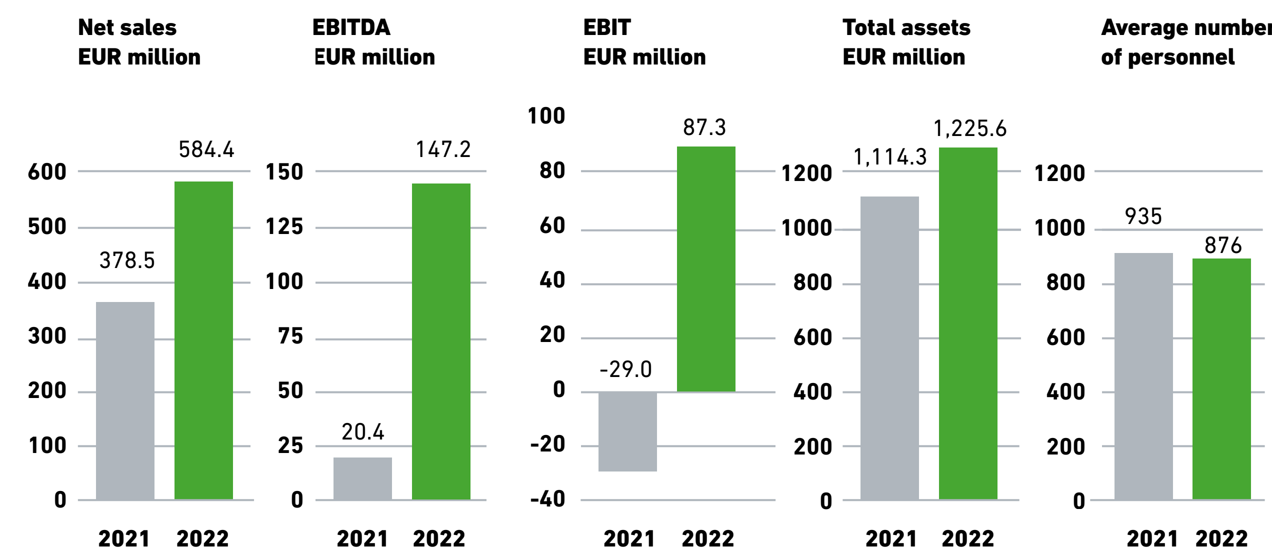


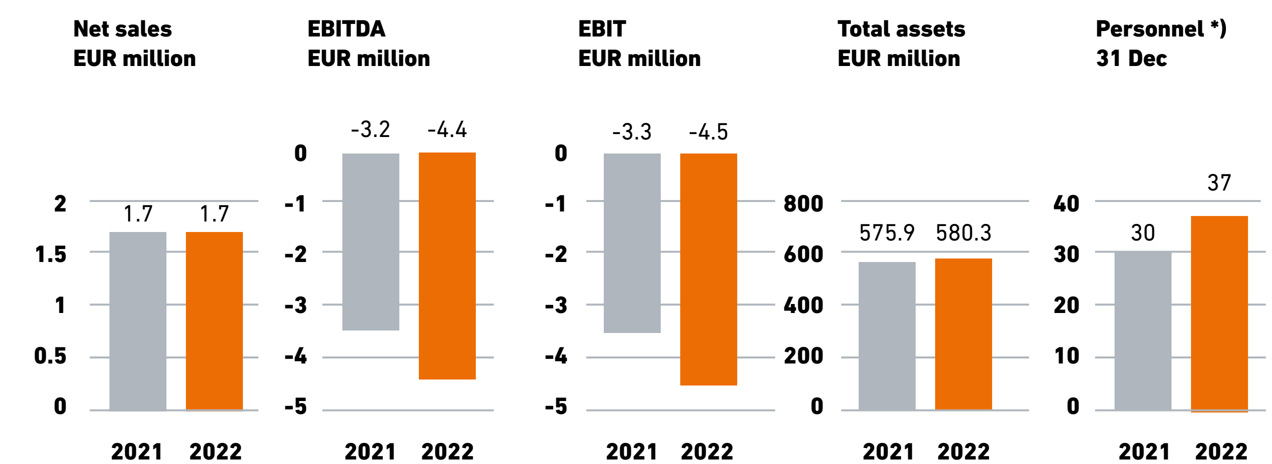
KEY FIGURES 2022

The Group companies comprise Finnish Minerals Group and Terrafame Oy as well as Sokli Oy and Finnish Battery Chemicals and its subsidiaries.

GROUP COMPANIES



FINNISH MINERALS GROUP



*) Including personnel of the wholly owned subsidiaries.

CEO'S REVIEW

CRITICAL VALUE CHAINS REQUIRE NEW KIND OF INDUSTRY

Our vision is to provide materials that are needed to achieve climate neutrality. This is well aligned with the goals set for Europe's green transition and industrial transformation.

THE ELECTRIFICATION of transport in Europe has progressed at a good pace and the demand for mineral raw materials is record high. We at Finnish Minerals Group are working with our partners on several large-scale projects related to European transformations.

As regards the cathode material plants in Kymenlaakso, we moved from the preliminary to the basic design phase and towards planning the implementation. Our next step in these projects will be to start the construction phase. In late 2022, we also started a new collaboration to explore the possibilities of establishing an anode material plant in Vaasa.

Our subsidiary Terrafame achieved a positive result for the fiscal year and an annual nickel production record, and continued the ramp-up of the new battery chemicals plant. Our portfolio company Keliber secured financing for its lithium project and started preparations for construction work. In the Sokli mining project, we worked on the scoping study and analysis to gain data for deciding whether to proceed to the next phase.

Alongside these projects, we continued to develop the processing of sodium sulphate. Our goal is to create a commercial solution on a responsible basis to recycle sodium sulphate into industrial commodities.

THE COVID-19 CRISIS and Russia's war of aggression against Ukraine have exposed the vulnerability of global value chains. Although the European industry will maintain its position in the global field, it is crucial for us to develop Finland's industry and internal market in a goal-oriented manner so that external crises will not disrupt them.

Europe and Finland are highly dependant on imported raw materials, chemicals and batteries. Ensuring their supply is at the heart of what we do at Finnish Minerals Group. When our industrial projects are realised, they will help cut down emissions from traffic and advance the transition to renewable energy.

Because of the international climate goals, it is important for society to stand firmly behind the development of a new kind of industry. The actions required include smoothening the investment permit processes, developing competences and maintaining and improving the infrastructure.

FINNISH MINERALS GROUP has a small organisation in relation to the size and social impact of our projects. This has not prevented us from building a team of experts that allows us to harness people's skills and talent for various projects. Our team has worked hard over the past year and deserves my special thanks for it.

MATTI HIETANEN
CEO
Finnish Minerals Group

KEY EVENTS

JANUARY
- Finnish Minerals Group's new four-member Occupational Safety and Health Committee starts to operate.

FEBRUARY
- Terrafame receives the reasoned conclusion on the EIA programme for the utilisation and expansion of Kolmisoppi mining concession.

MARCH
- The Supreme Administrative Court returns Sokli mining project's environmental and water management permit decision in its entirety to the regional state Administrative Agency for consideration.
- Our portfolio company Keliber ranks high in a comparison of low-carbon lithium chemical producers by consultancy company Wood Mackenzie.
- Sibanye-Stillwater's final investment of EUR 5 million from the EUR 40 million financing agreed in the previous year increases its holding to approximately 30%.

APRIL
- According to Taloustutkimus survey, a majority of the residents of Kymenlaakso region are in favour of the establishment of battery material plants in Kotka and Hamina.
- The regional state Administrative Agency for Western and Inland Finland grants a building permit for Keliber's lithium hydroxide refinery.

MAY
- We establish a joint venture with CNGR Advanced Material, which will advance the construction of a pCAM plant in Hamina.
- We join the Global Battery Alliance, which aims to build a responsible battery value chain by 2030. The GBA has more than 100 members from the battery industry.

JUNE
- Savukoski celebrates the 55th anniversary of discovering the Sokli deposit and the opening of a new office for Sokli.
- The regional state Administrative Agency for Northern Finland issues a decision on Terrafame's environmental and water management permit for the activity.

INTERVIEW

FIVE QUESTIONS TO THE CHAIR OF THE BOARD

Chair of the Board of Directors of Finnish Minerals Group Antti Kummu says that the company had a year of many successes.

1. What were the company's main success stories in 2022?

At the Group level, Finnish Minerals Group had a profitable year. On the whole, business was good for our subsidiary Terrafame, which made a profit of EUR 63 million for the period. Our portfolio company Keliber secured financing for its project, and the company's value as an investment has increased significantly. Our overall project portfolio development was positive as well.

2. Did the year bring any surprises?

My first thought is Russia's war of aggression against Ukraine and the human suffering it causes. The war has also exposed the weak links of global supply chains. Our Group has worked with a new approach to develop the sourcing of raw materials, for example.

3. How has the BoD advanced the company's responsibility work?

Responsibility is a key part of the company's operations and the BoD's work. Responsibility aspects are always taken into account when dealing with matters related to leadership, personnel, portfolio companies and development projects. The carbon footprint of battery chemicals and materials is an extremely important area in which our projects are among industry leaders globally.

4. How is the Finnish battery value chain coming along?

Many large-scale projects are planned for the Finnish battery value chain, and only the best ones will be implemented. We are not just creating a new branch of industry, we are making a major social change that has been triggered by the climate change and is linked to the needs of the transport and energy sectors.

5. What are your expectations for the decision-making of Finland's soon to be elected new government?

In my opinion, the new government's key tasks will be to foster Finland's global investment competitiveness and maintain a broad industrial base. This is important for both the national economy and security of supply. From the perspective of Finnish Minerals Group, it is important that we as a state-owned special-purpose company continue to have the resources needed to advance our good projects.

Chair of the Board
Antti Kummu

JULY

- Keliber's lithium project progresses as largest owner Sibanye-Stillwater invests EUR 146 million in Keliber in a share issue, increasing its holding to more than 50%.
- The pCAM and CAM plant projects are presented to stakeholders at Hamina Tattoo and Kotka Sea Days.

AUGUST

- We update the company's values, which are courage, integrity, curiosity and care.

SEPTEMBER

- We update our strategy, which now has four main objectives.

OCTOBER

- Sibanye-Stillwater increases its holding in Keliber to 85% by acquiring minority shareholders' shares for EUR 190 million. Our holding in Keliber is 14%.
- Updated evaluation shows that battery material plants in Hamina and Kotka will have significant economic impact on the Kymenlaakso region and on Finnish economy as a whole.
- We announce a collaboration with Epsilon Advanced Materials to assess the possibilities of establishing an anode material plant in Vaasa.

NOVEMBER

- Business Finland grants EUR 15 million in investment aid for circular economy to Adven-FMG Sodium Sulphate Solutions, to advance a project aiming at a plant investment based on the initial data of the pCAM plant.
- We renew our organisation. The new organisation is based on two business areas: Raw Materials and Battery Value Chain.
- We start getting ready for the EIA procedure of the anode material plant with our partner.

DECEMBER

- Keliber starts preparatory construction work of the lithium hydroxide refinery.

STREAMLINING THE ORGANISATION AND RESPONSIBILITIES

We have streamlined our organisational structure to enable more effective implementation of our strategy.

FINNISH MINERALS GROUP had its operating principles defined when the company launched operations in 2018. Our organisational structure and values are also from that time, and we made the first major changes to them in 2022.

The structure was developed to improve internal cooperation and to promote the implementation of the strategy. By updating our values, we aimed to ensure that they will resonate with our company's goals and with our employees' expectations.

OUR ORGANISATION is now based on two business areas. Employees focused on mineral raw materials and mining operations were consolidated in the Raw Materials business area, and employees engaged in battery value chain projects in the Battery Value Chain business area. The change also included forming a team focused on innovation, strategy and EU affairs as its own support function.

Our revised values contain some familiar ones and some new ones. Alongside courage and curiosity, we now have integrity and care. The new themes were raised in a staff workshop.

OUR PERSONNEL attend performance review discussions twice a year. The approach was changed this year to place more emphasis on the employees' professional development and to give more time to their personal expectations in the autumn discussions.

The review process also includes assessing occupational health and safety in the workplace twice a year. On the whole, very good results were once again achieved in the autumn's barometer. For example, perception of the meaningfulness of work corresponded with the previous year's rating. Our best results were related to being heard, the appreciation shown by the supervisors and feeling good about coming to work.

EARLY 2022 saw the start of the Occupational Safety and Health Committee's work. The committee's first task was conducting the workplace risk assessments and an action plan to improve occupational safety and health.

In the risk assessments, attention was paid to psycho-social stress factors at work, such as working alone, mobile working and the amount of work. The Sokli mining project is far from conventional office work, and the committee identified several accident risks that require preventive action through guidance and careful job induction measures.

OUR VALUES

- Courage
- Integrity
- Curiosity
- Care

The company values were revised together with the entire personnel.

37
At the end of 2022, the company and its wholly owned subsidiaries employed 37 people.

41
The average age of the personnel at the end of the year was 41 years, and the age distribution was fairly balanced.

89/11
At the end of the year, 89% of the employees worked on a permanent contract and 11% on a fixed-term contract.

23/14
The number of male employees was higher than female employees; 23 were men and 14 women.

86
The total number of training days was 86. In addition, many participated in various seminars.

150
There were a total of 150 sick leave days. There were no accidents at work that led to sick leave.

A hands-on approach and varied tasks are highly motivating

MY SUMMER internship as a Junior Geologist at Sokli began in May 2021. When I completed my studies at the University of Turku, I first worked on a fixed-term basis and then as a permanent Project Geologist from autumn 2022. In addition to my home office, I work at the Sokli site in Savukoski and the Sokli office in Espoo, where the mining project's historical records archive is kept.

In my job interview, the position was described as a front row seat to the Finnish mining industry and battery value chain – and it certainly is that. I have taken part in all kinds of development tasks under the Sokli mining project and performed auditing for Keliber's geological data.

My year at Sokli has comprised of a scoping study and the planning and administration of the related geological surveys. We have transferred collected data to databases and into a geological 3D model of Sokli.

I have had an opportunity to apply many of the skills I learned at university and to improve as a geologist. 18 months of hands-on experience with project work has taught me a great deal, and my motivation has been high as the tasks are varied and no two days are the same.

It has been fascinating to see the various stages of dynamic project work and get to know the multi-talented experts working at Finnish Minerals Group.

TEO LEHTO
Project Geologist

BUSINESS

Our mission is to develop a responsible battery value chain and mining in Finland and to responsibly maximise the value of Finnish minerals. Our goal is to be the pacesetter for the Finnish mining and battery industry.

THE PORTFOLIO EXPANDED AS THE PROJECTS PROGRESSED

In addition to investments in mining and chemicals, our portfolio now contains a battery material company.

IN LINE WITH OUR STRATEGY, we enable and develop commercially viable investments in the mining and battery industry on a long-term basis. We see mining industry investments as national resources for which we as an anchor investor enhance stability and social acceptance. In the battery value chain, we have sought experienced operators and companies that develop new technical solutions for the industry to be our partners in the preparation of projects for the battery industry in Finland by offering strategic partnerships, local expertise and resources.

In mining projects in 2022, we focused on our portfolio companies Terrafame, Keliber and Sokli. Our goal for the next few years is to add 1–2 new, more advanced mining projects to our portfolio. In battery value chain investments, our role and horizon changes according to the goals and needs of the investments.

OF OUR EXISTING MINING PROJECTS, Keliber´s lithium project moved to the construction phase. We advanced the project with Sibanye-Stillwater, which became the principal owner during the year.

Once Keliber secured financing, preparations for the construction of the lithium hydroxide refinery began. Keliber's project is part of the green transition, and in line with our ESG goals. The company's climate footprint is relatively low compared to current lithium hydroxide production chains.

Terrafame continued the ramp-up of the new battery chemicals plant. In Sokli, we completed the scoping study, on the basis of which we can later decide on proceeding to the next phase.

THE BATTERY VALUE CHAIN PROJECTS in Kotka and Hamina progressed, and based on the regional economic impact assessment completed in October, the cathode material plants will have a significant economic impact in the Kymenlaakso region. In accordance with our active ownership goals, the projects also advance battery sector competence development in Finland and will generate various tax revenues for society.

> The projects also contribute to competence development in the industry.

We initiated new project development work with Epsilon Advanced Materials with the aim of establishing an anode material plant in Vaasa. We also continued developing a sodium sulphate recycling solution with Adven under our joint venture.

OWNERSHIP 67.0 %

TERRAFAME OY

Products: nickel, cobalt and ammonium sulphates; nickel-cobalt, zinc and copper sulphides

- Terrafame made EUR 63 million in profit for the financial year and its record-breaking nickel production exceeded 30,000 tonnes.
- The Regional State Administrative Agency (RSAA) issued a decision on Terrafame's environmental and water management permit.
- The Renault Group and Terrafame signed a long-term contract for nickel sulphate deliveries.

OWNERSHIP 13.9 %

KELIBER OY

Planned product: lithium hydroxide

- Investing in the lithium project was confirmed.
- The Kokkola lithium hydroxide refinery received the final environmental permit in August and the investment decision was made in 28 November.
- The RSAA granted environmental and water management permits for the Rapasaari mining site and concentrator plant.

OWNERSHIP 100 %

SOKLI OY

Potential products: phosphorus, iron, rare earth elements, etc.

- We continued our active dialogue with stakeholders and opened an office in Savukoski.
- The Supreme Administrative Court returned the mining project's environmental and water management permit decision granted under the previous owner to the RSAA for consideration.
- Our scoping study was completed at the end of the year.

OWNERSHIP 40.0 %

CNGR FINLAND OY

Planned product: precursor cathode active material (pCAM)

- Joint venture CNGR Finland Oy was established to take the pCAM plant project forward.
- Environmental permit application preparation began in the project in late 2022.
- The goal is to achieve a record low carbon footprint for precursor active material production.

PROGRESS IN NEW AND EXISTING BATTERY VALUE CHAIN PROJECTS

The need to replace fossil fuels in Europe became ever more urgent during the year. It also increased the demand in Europe for batteries used in the car industry and in energy storage systems.

THE YEAR 2022 was unexpectedly turbulent. The war in Ukraine created new investment risks, and Europe's dependency on energy imported from Russia made the operating conditions of industry riddled with uncertainty. War-driven inflation and rising interest rates have brought extra challenges to financing investments.

On the other hand, these upheavals made it ever more clearer that Europe needs to reduce the share of fossil fuels in both transport and energy production. Batteries play a key role in implementing the energy transition.

According to market intelligence agency Benchmark Mineral Intelligence, Europe's planned battery cell production continued on a path of high growth in 2022. The number of gigafactory projects in Europe increased from 27 to 32. Battery cell production is forecast to achieve a total capacity of 1,186 gigawatt hours by 2031.

WE ESTABLISHED CNGR Finland Oy as a joint venture with CNGR Advanced Material in 2022. Its mission is to advance the construction of a plant in Hamina for the production of precursor material (pCAM) needed in making batteries for electric cars. Mr. Thorsten Lahrs from Germany was appointed as the CEO of the joint venture. We own 40% of the new venture.

Kotka plant project for cathode active material (CAM) production progressed with partner Beijing Easpring. The progress of the project was impacted by the revision and updating of the investment plans. However, stronger demand for cathode active material in Europe creates good conditions for the plant investment.

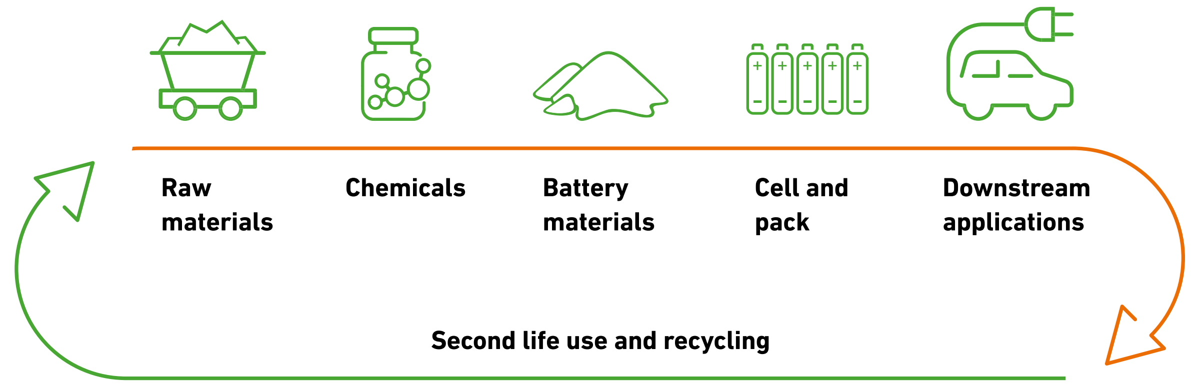
OUR PROJECT PORTFOLIO was expanded to cover anode materials with the announcement of collaboration with Epsilon Advanced Materials (India). We aim to assess the possibilities of establishing a joint venture in Vaasa for graphite-based anode material production. The initial phase goal is to produce anode material for about 200,000 electric cars per year, and later, increase the production capacity to anode material needed for up to one million electric cars.

pCAM =
precursor cathode active material: preliminary stage of the cathode active material used in lithium-ion batteries

CAM =
cathode active material: end product used to manufacture cathodes, the most valuable part of the battery cell

anode =
cathode's counterpart: determines the battery's charging speed and number of charge cycles

VALUE CHAIN OF LITHIUM-ION BATTERIES



Chemistry has a key role in battery value chain development

WE CAN mitigate climate change through renewable energy use, fossil fuel replacement and the electrification of transport. Chemistry plays a key role in all these measures. Chemists develop, for example, alternative fuels and means of enhancing the energy efficiency of transport modes. New fuels and technologies – such as biofuels, fuel cells for hydrogen cars and electric car batteries – promote the reduction of emissions from transport.

As a chemist I aim to develop the lithium-ion battery value chain for the production of, for example, chemicals, cathode and anode materials, and battery cells and packs. My work involves the preparation and implementation of value chain development projects. I support the projects by assessing different chemical reactions in batteries and how they would fit into the Finnish battery value chain. I specialise in battery chemistries and cell technologies, and I coordinate R&D tasks related to sodium sulphate management. At Finnish Minerals Group, we also study the possibilities of using alternative materials and work on the traceability of raw materials.

We cooperate with many research organisations. For example, in the BatCircle 2.0 project we accelerate low-carbon sustainable economic growth in Finland and the achievement of climate goals in transport.

Chemistry is also useful in assessing environmental impacts of operations. As part of investment planning, we have consulted our partners in the environmental impact assessment procedures.

SANJA-MARIA OLLI
Chemist

LONG-TERM DEVELOPMENT WORK PRODUCES NEW SUSTAINABLE SOLUTIONS

Our development projects produce concrete solutions to support the transition from fossil energy to renewable energy sources.

WE HAVE OUTLINED ambitious goals in our strategy for achieving carbon neutrality and minimising discharges to water bodies. This is essential as the world makes an economic transition away from fossil fuels and towards mining and minerals. We had four strategic development projects underway in 2022.

One key focus is the processing of sodium sulphate. More stringent requirements will be set on the processing of sodium sulphate in industry in the future. We launched an extensive pilot project to verify that the new solution will function as part of the battery material process. At the same time, we were getting ready to make the first industrial investment. We are developing a circular economy solution with Adven to create economic value added. Our joint venture, Adven-FMG Sodium Sulphate Solutions, has also received project funding from Business Finland.

ONE OF OUR GOALS is to assess solutions based on renewable raw materials to the mineral value chain. Our project to study the partial replacement of minerals mainly focused on the potential of bio-coal and on bio-based alternatives to hazardous chemicals.

We had discussions on and built scenarios for the further processing of the rare earth elements (REE) found in the ore extracted at Sokli and by Terrafame. We estimated that Sokli could produce nearly 10% of the EU's demand for REE in permanent magnets in 2030. We will examine the conditions for building a supply chain based on REE deposits in Finland.

THE PROPOSED EU BATTERY REGULATION AMENDMENT on the battery passport, effective from 2026, solidifies our work on traceability. It will enhance transparency and responsibility throughout the value chain. End user purchase decisions will be supported by information on the origin of materials, impact during production and supply chain responsibility.

Our portfolio company Keliber is establishing the world's first lithium refinery based on soda leaching technology. In addition, our subsidiary Terrafame is ramping up a unique, integrated nickel sulphate production plant, where capacity is among the highest and carbon footprint is among the lowest in the world. These Finnish supply chains serve customers in Europe. More mines and responsibly produced raw materials are needed to support this work.

> **The proposed EU battery regulation amendment on the battery passport solidifies our work on traceability.**

FACTORS CONTRIBUTING TO THE MINING AND BATTERY INDUSTRY IN THE LONG RUN

Benefits of digitalisation from Mining 2.0

THE IMPACT of digitalisation on mines and metallurgical plants has been talked about for a while. Data crunching, self-learning systems, digital twins, robotics and process integration are all part of the phenomenon. What actual benefits can digitalisation bring to the mining sector?

The challenges with mines and refineries typically concern process optimisation and problem-solving. Process input varies and disruptions occur from time to time. Problems often occur at the end of the process while their cause is at the beginning of the process. Responsibility for the process areas is dispersed and the flow of information is less than optimal. When data are hard to understand, it can be challenging for the operator/metallurgist to make the right decision based on it.

Digitalisation can solve this problem. Optimising data processing and use in the process opens up great possibilities: a self-learning system that digests all the data can provide the right solution at the right time.

It remains to be seen how quickly things will actually change. The impact of digitalisation on the nature of mining is difficult to assess, but it will inevitably be an important phenomenon in the sector.

VILLE MIETTINEN
Senior Technology Manager

CORPORATE RESPONSIBILITY PROGRAMME

The key focus areas of our responsibility work are societal impact, value chain activities and environmental issues.

OUR RESPONSIBILITY PROGRAMME HAS THREE THEMES

Finnish Minerals Group's responsibility programme for 2020–2024 is based on our stakeholder survey of 2019. The Board of Directors has approved the programme. Our subsidiary Terrafame has its own sustainability programme, which is approved by Terrafame's Board of Directors.

THEME 1

Social impact

Topic	Objective	Progress in 2022	Indicator 2024
Jobs	New high-tech jobs to Finland	• We updated the economic impact assessment of the pCAM and CAM plants. With initial phase capacities, the direct employment impact is 630 jobs and the need for new labour 3,532 person-years. • End of 2022, our subsidiary Terrafame directly employed about 783 people, of whom 130 worked at the new battery chemical plant. Our portfolio company Keliber employed 30 people.	More than 1,000 new jobs directly and thousands indirectly based on decisions to invest in the battery value chain.
Economic value added	Economic value added from raising the degree of processing raw materials	• Once operational, the planned pCAM and CAM plants would generate EUR 495 million of new GDP per year at initial phase capacities. • We signed a MoU with our partner to assess the possibilities of establishing an anode material plant. • Terrafame's GDP impact is EUR 640 million per year, and Keliber's impact will be seen later on.	EUR 1.5 billion increase in GDP based on decisions to invest in the battery value chain.
Utilisation of expertise	Channelling expertise to the development of responsibility in the mining and battery industry	• Through Metsta, we participated in the global standardization work on concentrates and rare earth elements. • Our Global Battery Alliance (GBA) partnership included the Critical Minerals Advisory Group's work towards companies sharing their experiences related to responsibility and the environment and creating an action plan for solving any problems.	Upward development curve or continuous good feedback in survey results.

pCAM = precursor cathode active material
CAM = cathode active material

THEME 2

Sustainable value chain

Topic	Objective	Progress in 2022	Indicator 2024
Value chain and co-operative relationships	Responsible actions throughout the value chain and in partnerships	• Our GBA partnership included work towards globally harmonised rules for carbon footprints and drafting of sustainability parameters and, through them, a global battery passport. • We chaired the Finnish Network for Sustainable Mining's work to devise sustainability guidelines for mining project companies. • The EU Battery Directive, on which we have commented previously, reached the final decision-making stage.	Sustainable development goals have been set by Finnish Minerals Group, the portfolio companies and main partners, and the companies agree with generally accepted statements.
Acceptability of operations	Structured stakeholder work and dialogue to strengthen acceptability	• The results of the stakeholder survey concerning the acceptability of the Kymenlaakso pCAM and CAM plants were positive. • We continued negotiations on the mining concession for Sokli, and finalised the agreements with the landowners. • We started getting ready for the EIA procedure for the anode material plant with our partner.	Upward development curve or continuous good feedback about expertise in corporate image research results on stakeholder work.

THEME 3

Responsibility for the environment and climate

Topic	Objective	Progress in 2022	Indicator 2024
Environmental impact and the circular economy	Initiatives to minimise environmental impact and promote the circular economy	• We continued our long-term development work to recycle sodium sulphate from industrial processes in cooperation with Adven. • We launched a strategic project to explore the possibilities of using bio-based raw materials in the production of battery materials. • Terrafame utilises the battery chemical plant's ammonium sulphate as a by-product that it sells to the fertilizer industry.	The boards of portfolio companies annually approve strategic development plans concerning environmental impact and the circular economy.
Carbon dioxide emissions	Support for the Paris agreement and achieving carbon neutral Finland by 2035	• We completed the preliminary 'cradle-to-gate' carbon footprint assessment of the battery material plants planned to be established in Kymenlaakso, Finland. • Terrafame's goal is to achieve carbon-neutral production by 2039.	The boards of portfolio companies annually approve strategic development plans for the reduction of carbon dioxide emissions.

THEME 1: SOCIAL IMPACT

SIGNIFICANT ECONOMIC IMPACT FROM THE BATTERY MATERIAL PLANTS

Under the theme of social impact, we examine the economic value addition and labour needs resulting from new industrial activities.

IN LATE 2022, we re-assessed the regional economic impact of the battery material plants to be established in Kymenlaakso, Finland. The initial data for the assessment have been specified during the design phase of the plants.

The initial data used were an annual production volume of 60,000 tonnes for the pCAM plant in Hamina and 50,000 tonnes for the CAM plant in Kotka. These numbers correspond to an annual battery production capacity of 32 GWh, which would be adequate for about 640,000 fully electric cars per year.

Economic impact was assessed separately for the construction and production phases. In both cases, the initial data for modelling is based on the price level and costs for 2022.

THE INVESTMENTS required for the construction of the plants in Hamina and Kotka total around one billion euros. In addition, the projects will bring other investments worth about EUR 150 million across the construction project's value chains. The construction of the plants did not commence in 2022, but earthworks have already started on both sites.

The overall demand for labour arising from the construction is equivalent to 9,122 person-years. During the construction phase, the GDP per year would amount to EUR 736 million and EUR 330 million would be generated in tax revenues per year.

WHEN IN OPERATION, the plants would bring long-term effects on the economy. The sectors most affected by the changes would be services and industry.

The need for new labour when the plants are in operation was estimated to be 3,532 person-years. Of these, direct employees for the plants would account for 630 person-years. The estimated GDP growth would be EUR 495 million per year, while EUR 214 million was estimated to be generated in new tax revenues per year.

OUR SUBSIDIARY TERRAFAME has earlier commissioned an assessment which showed that its economic impact is more than EUR 640 million in GDP and EUR 230 million in tax revenues per year. Terrafame's employment impact is 4,700-5,000 person-years.

The first construction project to be implemented in our portfolio company Keliber's lithium project will be the lithium hydroxide refinery. Later during the project, an organisation of 150-200 people will be established for production activities.

> **The economic impact of the Kymenlaakso plants was assessed based on updated initial data.**

ECONOMIC IMPACT OF BATTERY MATERIAL PLANTS WHEN IN OPERATION

- **Direct employment impact**: 630 person-years
- **Overall demand for new labour**: 3,532 person-years
- **New GDP per year**: 495 million euros
- **New tax revenue per year**: 214 million euros

The battery material plants planned to be established in Hamina and Kotka will have significant regional economic impact. In addition to the impact after operations have started, there are effects arising from construction.

Local residents in favour of battery material plants

INCLUDED in the preparation work for the battery material plants was a survey among the local residents. Based on the survey results, 95% of the residents think that Europe should increase its self-sufficiency in batteries and battery material production. Of the respondents, 94% found that the placement of the plants in Kotka and Hamina would advance economic growth and employment in the region.

Three out of four respondents knew that a battery material plant is planned to be established in Hamina, while only slightly more than half of the respondents were aware that another battery material plant is being planned in Kotka. The two plants will have different production processes and end products though both are designed to produce materials needed for lithium-ion batteries.

Based on the results, residents were keen to hear more about the environmental impact of production activities, ownership of the plants, job opportunities and potential effects on nearby residential areas.

"The plants will be constructed using the best available techniques and technology. The operators will be two Finnish limited liability companies, which will also hire the employees and will be responsible for the operation of the plants. Before starting operations, the necessary permits will be obtained for the plants, and the operators will have to carefully comply with the limits set in the permits," says **Vesa Koivisto**, SVP, Battery Value Chain.

VESA KOIVISTO
SVP, Battery Value Chain

THEME 2: SUSTAINABLE VALUE CHAIN

EXTENSIVE COLLABORATION ON VALUE CHAIN SUSTAINABILITY

Under the theme of Responsible battery value chain, we seek to influence the development of lithium-ion battery production based on jointly agreed standards and approaches.

CLIMATE CHANGE and mitigation measures are increasing the global demand for lithium-ion batteries needed in, for example, electric vehicles and energy storage systems. Rapid market growth requires ensuring responsible value chain development.

The battery value chain is based on mineral raw materials extracted from mines. The raw materials are further processed into battery chemicals such as nickel and cobalt sulphates and lithium hydroxide. The chemicals are used to produce battery materials and these for the production of battery cathodes and anodes.

In the future, bio-based and recycled raw materials may be used to produce certain battery materials.

IN THE BATTERY VALUE CHAIN, collaboration and social responsibility are in focus. We cooperate with service providers, expert organisations and research institutions. In our industrial projects, we engage in dialogue with partner companies, local residents and landowners.

In 2022, we joined the Global Battery Alliance, which aims to build a sustainable battery value chain by 2030. The collaborative platform works for a low-carbon value chain and to safeguard human rights and economic development.

As a member of the Alliance, we participate in global efforts to set standards for the battery sector and in developing the digital battery passport. A new version of the Greenhouse Gas Rulebook was completed in late 2022. Our experts were also consulted during the work.

> Mineral raw materials are needed to make lithium-ion batteries.

OUR GROUP PUBLISHED a human rights policy at the beginning of the year. The policy is based on our previous year's stakeholder survey. The most essential human rights for us are occupational safety and health, equality and non-discrimination, a healthy environment, an adequate standard of living, fair employment and freedom of association. Publishing the policy started our work towards establishing indicators for human rights monitoring and developing our operations.

An Occupational Health and Safety Committee started its work at Finnish Minerals Group and our fully owned subsidiaries. Our subsidiary Terrafame has systematically worked on occupational health and safety and environmental safety for years.

Drilling work was carried out in the Sokli mining project in the summer.

Responsibility tools for project companies coming soon

THE FINNISH NETWORK for Sustainable Mining is a discussion and collaboration platform for the sector and its stakeholders. It maintains and develops sustainability standards for mining. Finnish Minerals Group is in the network as a member of the Finnish Mining Association.

The sustainability standards for mining were originally created for mining companies, providing criteria for stakeholder management, GHG emissions, water management, energy use, etc. For ore exploration, there is also a set of assessment criteria that differs from assessment tools used by operating mines. In 2022, the network set the goal of defining guidelines for project stage companies as well.

"Project stage companies have not started mining operations yet and they are not focused on just ore exploration. That is why they need their own assessment guidelines that support them with responsible project development," says **Samuli Nikula**, Chair of the working group for the development project.

The working group's proposal, which was based on the existing assessment tools for mining sector companies operating in Finland, was completed in late 2022. The new procedure can be put to use after the Board of the Finnish Network for Sustainable Mining has processed the proposal.

SAMULI NIKULA
Senior EHQS Engineer

THEME 3: RESPONSIBILITY FOR THE ENVIRONMENT AND CLIMATE

FOCUS ON RECYCLING SODIUM SULPHATE AND MINIMISING THE CARBON FOOTPRINT

We work with our portfolio companies to improve their production processes from an environmental and climate perspective.

WE HAVE SET two environmental goals in our responsibility programme. The first one is to minimise impact on the environment and the second one is to reduce carbon dioxide emissions. Above all, the goals are for the companies in our investment portfolio, including Terrafame, which engages in mineral and battery chemicals production and has its own environmental impact reduction plan.

In addition to Terrafame, we work with our nascent portfolio companies on their technical sustainability. We help them with their process planning and by introducing new technologies and developing the existing ones. Our aim is to support the companies' value creation in the demanding battery value chain for electric cars.

MINING AND BATTERY INDUSTRY companies need to utilise their production process side streams carefully according to the principles of the circular economy. This also applies to sodium sulphate, which can be recycled into industrial commodities.

Processing of sodium sulphate has been researched and developed in our company since 2015. The upcoming battery material plants give an opportunity to forge ahead with this development work and to design and implement an industrial solution for recycling sodium sulphate.

In late 2021, we started cooperation on processing of sodium sulphate with Adven, a company specialising in energy and water management solutions. At the end of 2022, our joint venture received a grant from Business Finland, which will be used to advance an investment project based on the initial data of the pCAM plant to be established in Hamina. Finnish Minerals Group is also part of a large consortium, whose work on developing sodium sulphate processing has received financial support from Business Finland.

IN THE KYMENLAAKSO REGION, battery material production plant projects aim to achieve the lowest possible carbon footprint. This requires minimising the carbon footprint when designing the buildings and production processes and planning raw material procurement.

Calculations made at Finnish Minerals Group in 2022 showed that the cradle-to-gate carbon footprint of Hamina's pCAM plant and Kotka's CAM plant would be significantly lower compared to similar products on the global market.

> **The ultimate goal is a solution for recycling sodium sulphate into industrial commodities.**

Carbon footprints were calculated for Kymenlaakso production plant projects.

Cathode material's carbon footprint is a competitive factor

WE ARE seeking ways to minimise the carbon footprint of the cathode material plants in Kymenlaakso, Finland during construction and production. In late 2021, Finnish Minerals Group launched a project to assess the plants' carbon footprint from cradle to gate.

Data on materials were based on the plants' preliminary plans and emissions data was mainly obtained from raw material suppliers. Oneclick LCA was used to calculate the carbon footprint of building materials. The material flows of cathode material production were based on the EIA report on the plants. The review period was ten years.

"The emissions of cathode material production are mostly attributable to its raw materials, nickel and cobalt sulphates and lithium hydroxide. In the plant projects as a whole, emissions from building materials are low. The overall carbon footprint of the materials produced in Kymenlaakso will be low compared to the global market," says **Aleksi Ojanperä**, who wrote his master's thesis on the subject.

Ojanperä says that the calculations will support the further planning and setting of development targets for the projects in Hamina and Kotka. The calculations will also be updated along the design process.

ALEKSI OJANPERÄ
Environmental Engineer

CORPORATE GOVERNANCE

Finnish Minerals Group is a state-owned special-purpose company, with a mission to responsibly maximise the value of Finnish minerals.

GOOD GOVERNANCE PRINCIPLES GUIDE OUR MISSION

In 2022, we established an audit committee under the Board of Directors to assess risks related to, for example, investments.

FINNISH MINERALS GROUP is a wholly state-owned special-purpose company set up to build a battery value chain in Finland and manage the state's shareholdings in the mining sector. Our basic mission is to responsibly maximise the value of Finnish minerals.

Our corporate governance and decision-making models comply with the Articles of Association, the Limited Liability Companies Act and other legislation in force. We are also guided by the Government Resolution on State Ownership Policy and the internal policies and guidelines adopted by the company's Board of Directors. Our ownership steering body is the Prime Minister's Office, which has issued our corporate governance code.

THE HIGHEST DECISION-MAKING BODY of the company is the General Meeting of Shareholders. In the year under review, the General Meeting of Shareholders was held on 4 April 2022.

The Board of Directors is responsible for managing the company and for the appropriate organisation of its operations. The composition of the Board of Directors is at least three and at most seven members, who are elected for one year at a time. At the end of 2022, our Board of Directors consisted of seven members. The term of office for Board members ends at the close of the next Annual General Meeting following the election of the Board.

> The Board of Directors met 12 times in 2022.

The Board of Directors has adopted for itself rules of procedure, in which the main tasks and operating principles of the Board and its committees have been recorded. The Board of Directors had three committees: Audit, Personnel and Remuneration and Responsibility. Of these, the audit committee was new, established in early 2022. The committees were convened 3–4 times during the year. The Board of Directors had 12 meetings.

THE CHIEF EXECUTIVE OFFICER (CEO) is responsible for the company's operational management in accordance with the Limited Liability Companies Act and other legal provisions, as well as the guidelines and regulations issued by the Board of Directors. The Board of Directors decides on the appointment and dismissal of the CEO and on the terms of employment for the position.

The Executive Leadership Team's duties include assisting the CEO in the management and development of the business and preparing matters to be discussed by the Board of Directors. The Executive Leadership Team met two times a month on the average.

THE BOARD OF DIRECTORS AND CEO are responsible for the arrangement of internal control, risk management and internal auditing. The Board of Directors has confirmed the principles of risk management and the policy for organising related party governance and dealing with related party transactions that everyone in our company shall adhere to.

The company's auditor was KPMG Oy Ab, on behalf of which APA Antti Kääriäinen was the principal auditor.

THE MANAGEMENT SYSTEM OF FINNISH MINERALS GROUP

GENERAL MEETING

BOARD OF DIRECTORS
Audit Committee
Personnel and Remuneration Committee
Corporate Responsibility Committee

CEO

EXECUTIVE LEADERSHIP TEAM

We renewed our organisation

OUR COMPANY introduced a renewed organisation on 1 November 2022. Our new organisation is based on two business areas: Raw Materials and Battery Value Chain. The aim of the reform is to improve internal cooperation and promote the implementation of our strategic projects.

Employees focused on mineral raw materials and mining were consolidated in the Raw Materials business area, and employees engaged in battery value chain projects were consolidated in the Battery Value Chain business area.

Both business areas are backed up by support functions. By upgrading the team focused on innovation and EU affairs into a support function, the Executive Leadership Team will have better visibility into these matters. The team leader was also appointed as a member of the Executive Leadership Team. Our other support functions are Business Support, Investments and M&A as well as HR, Responsibility and Communications.

Our Executive Leadership Team has 7 members.

WE REPORT THE GROUP LEVEL TOTAL TAX CONTRIBUTION

Tax reporting is based on financial statements drawn up in accordance with the Finnish Accounting Act.

TAX CONTRIBUTION reporting and preparing for taxes are corporate responsibility requirements at Finnish Minerals Group. The Group companies are committed to comply with tax legislation, other laws and regulations, and the instructions of the parent company's state-owner.

We pay and report taxes in a timely manner. Where necessary, we use the best possible external expertise to supplement our employees' know-how.

KEY TAX-RELATED MATTERS are dealt with by Group company boards of directors under the Finnish Limited Liability Companies Act. Group company CEOs are responsible for the organisation of tax matters in their company. Adhering to the principles of corporate responsibility, the Group and Group companies do not have operations or assets abroad to gain tax benefits.

TAX CONTRIBUTION REPORTING is based on financial statements drawn up in accordance with the Finnish Accounting Act. Excluded from the tax contribution report are mandatory insurance premiums that are included in salary costs. Due to their nature, these insurance premiums are dealt with as direct salary costs. The Group companies also do not report small amounts of value-added tax included in foreign travel and training costs in the tax contribution report.

So far in its years of operation, Finnish Minerals Group and Terrafame have accumulated losses that are deductible for tax purposes. For this reason, the companies do not yet have any taxable income. However, a considerable amount of other tax expenses have been accumulated from the energy and fuel taxes and VAT related to the companies' operations. The companies have also paid the usual taxes related to the acquisition and ownership of assets.

> Our Group company CEOs are responsible for the organisation of tax matters in their company.

2022 EUR 1,000	**Finnish Minerals Group**	**Terrafame Oy**	**Group companies total**
Taxes paid			
Direct taxes paid	**40**	**1,824**	**1,868**
Income taxes	0	0	0
Transfer taxes	0	12	12
Property taxes	0	665	665
Employer's social security contributions	37	593	632
Parafiscal charges	3	553	558
Indirect taxes paid	**0**	**5,794**	**5,794**
Electricity taxes, net	0	341	341
Electricity taxes	0	341	341
Electricity taxes, return	0	0	0
Insurance premium tax	0	554	554
Fuel taxes, net	0	4,896	4,896
Fuel taxes	0	5,525	5,525
Fuel taxes, return	0	-629	-629
Waste tax	0	2	2
Taxes collected and accounted for	**962**	**3,203**	**3,349**
Tax withheld in advance	938	9,924	10,916
Value-added tax, net	24	-6,721	-7,567
Value-added tax, sales	417	97,952	98,640
Value-added tax, purchases	-393	-104,673	-106,207
Total	**1,002**	**10,821**	**11,010**
Ratio of tax payments to net sales	60.63%	1.85%	1.88%

2021 EUR 1,000	**Finnish Minerals Group**	**Terrafame Oy**	**Group companies total**
Taxes paid			
Direct taxes paid	**35**	**1,505**	**1,599**
Income taxes	0	0	0
Transfer taxes	0	22	22
Property taxes	0	650	650
Employer's social security contributions	30	659	693
Parafiscal charges	5	174	234
Indirect taxes paid	**0**	**3,287**	**3,287**
Electricity taxes, net	0	-1,975	-1,975
Electricity taxes	0	311	311
Electricity taxes, return	0	-2,286	-2,286
Insurance premium tax	0	536	536
Fuel taxes, net	0	4,723	4,723
Fuel taxes	0	5,478	5,478
Fuel taxes, return	0	-755	-755
Waste tax	0	3	3
Taxes collected and accounted for	**805**	**20,002**	**20,175**
Tax withheld in advance	675	9,737	10,500
Value-added tax, net	130	10,265	9,675
Value-added tax, sales	467	99,712	100,248
Value-added tax, purchases	-337	-89,447	-90,573
Total	**840**	**24,794**	**25,061**
Ratio of tax payments to net sales	48.05%	6.55%	6.62%

BOARD OF DIRECTORS

31 December 2022

ANTTI KUMMU
Chair of the Board
M.Sc. (Econ.), CFA
b. 1976

OLAVI HUHTALA
Vice Chair of the Board
B.Sc. (Eng.)
b. 1962

PAULI ANTTILA
M.Sc. (Econ.)
b. 1984

TEIJA KANKAANPÄÄ
M.Sc. (Tech.)
b. 1964

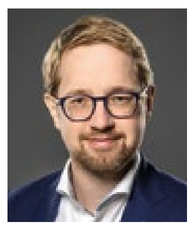
ILPO KORHONEN
B.Sc. (Eng.), eMBA
b. 1964

JUKKA OHTOLA
M.Sc. (Econ.), CEFA
b. 1967

EEVA RUOKONEN
D.Sc. (Tech.), MBE (diploma)
b. 1960

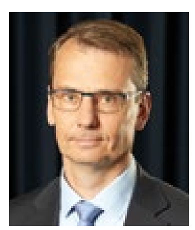

Antti Kummu


Olavi Huhtala


Pauli Anttila


Teija Kankaanpää


Ilpo Korhonen


Jukka Ohtola


Eeva Ruokonen

PERSONNEL

31 December 2022

MATTI HIETANEN*
CEO

JANI ADOLFSSON-TALLQVIST
Development Manager

TEEMU ELOMAA
Project Development Manager

SINI ESKONNIEMI*
VP, Innovation and Technology Development

ROBERT GUSTAFSSON
M&A Manager

IIRO HAKALA
Analyst Trainee

PYRY-MIKKO HANNULA
Development Manager

PASI HEINO
Project Director

OUTI ILTANEN
Executive Assistant

TEUVO KARPEEKI
Mining Area Supervisor

KATRI KAUPPILA*
VP, Corporate Responsibility, People and Communications

KAISA KIIPULA
Development Manager

JANI KIURU*
SVP, Raw Materials

VESA KOIVISTO*
SVP, Battery Value Chain

PIA KORTELAINEN
Financial Controller

SINI KOSKELO
Communications Specialist

TIMO KÄRKKÄINEN*
VP, Investments

TEO LEHTO
Project Geologist

PYRY LUUKKA
Development Manager

VILLE MIETTINEN
Senior Technology Manager

TIINA MÄKELÄ
Trainee Executive Assistant

SAMULI NIKULA
Senior EHQS Engineer

AAPO NIKUNEN*
CFO

ALEKSI OJANPERÄ
Environmental Engineer

SANJA-MARIA OLLI
Chemist (Battery Materials)

ANNIKA POIKAJÄRVI
Business Controller

JOONAS RAITIO
Senior Process Engineer

RONJA RUISMÄKI
Development Manager

VILHELMIINA RUOHONEN
People and Communications Specialist

JUKKA SALMELA
Business Development Manager

ARTO SOISALO
Group Legal Counsel

TIMO STRENGELL
Project Director

MERJA TAKALA
Financial Planning Development Manager

TIIA-REETA TIHINEN
Legal Trainee

EMIL VIITALA
Group Legal Counsel

MATIAS VITIE
Investment Manager

MINYUE ZHU
Business Development Manager

Personnel includes also the staff of wholly owned subsidiaries.

* Member of Executive Leadership Team

REPORT FOR THE FINANCIAL PERIOD

CONTENTS

GROUP, IFRS

PARENT COMPANY, FAS

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Significant events during the financial period

Finnish Minerals Group is a state-owned special-purpose company. In line with our strategy, (1) we create value through active ownership, (2) we increase the value add by building a Finnish battery value chain, (3) we build sustainable businesses, and (4) our aim is to be a forerunner driving prosperity of the Finnish mining and battery industry. In line with our vision, we are making available materials that enable Finland and Europe to achieve climate neutrality. Our mission is to responsibly maximise the value of Finnish minerals.

Our Group consists of the following companies: Suomen Malmijalostus Oy, Terrafame Oy, Sokli Holding Oy and its subsidiary Sokli Oy, and Finnish Chemicals Battery Oy and its subsidiaries. Suomen Malmijalostus also uses the auxiliary business name Finnish Minerals Group.

The current mandate and trade name were given to the Group's parent company, Finnish Minerals Group, in 2018. The year 2022 was the company's fourth full year of operation under its current mandate.

Operations of Finnish Minerals Group

Our company's operations are organised according to two business areas and support functions. In the following sections, we discuss our work on raw materials, the battery value chain and R&D in 2022.

Raw materials

Our holdings in the Raw Materials business area were Terrafame Oy (67.0%), Keliber Oy (13.9%) and Sokli Oy (100%).

TERRAFAME OY

Our annual review deals with our subsidiary Terrafame more than our other portfolio companies, as it is our most important asset. In 2022, Sotkamo-based Terrafame produced nickel, cobalt and ammonium sulphates, as well as nickel-cobalt, zinc and copper sulphides. Sulphate production was launched in 2021 at the new battery chemicals plant, where production ramp-up continued in 2022. The plant's capacity is among the highest and the carbon footprint of its main product, nickel sulphate, among the lowest in the world.

We were an active participant in the development of Terrafame over the course of the year. Our experts participated in Terrafame's technical, commercial and financial committees and in the work of the steering committee for the battery chemicals plant project. In addition, we provided Terrafame with services related to legal affairs and R&D.

Under the shareholders' agreement, five people are appointed to Terrafame's Board of Directors based on Finnish Minerals Group's proposal.

KELIBER OY

Keliber continued the preparations for its lithium hydroxide project with the aim of starting production ramp-up in 2025. The project includes several mining sites in Central Ostrobothnia, a concentrator and a lithium hydroxide refinery. In December 2022, Keliber started preparations for lithium hydroxide refinery construction at Kokkola Industrial Park, and environmental and water management permits were received for Päivänevä concentrator and Rapasaari mine.

Keliber's financing arrangements proceeded according to plan when Sibanye-Stillwater, an international mining and mineral refining company, invested the last EUR 5 million tranche of the EUR 40 million of financing agreed in the previous year. In July, Sibanye-Stillwater became the majority owner of Keliber by investing EUR 146 million in Keliber in a new share issue. Finnish Minerals Group also announced in July that it was preparing a financing arrangement as a minority owner of Keliber. In October, Sibanye-Stillwater's holding increased to 85 percent with the purchase of minority shareholder's shares for EUR 190 million.

The CEO of Finnish Minerals Group, Matti Hietanen, has served on Keliber's Shareholders' Nomination Committee. When Sibanye-Stillwater invested in Keliber, the General Meeting of Shareholders decided in May to confirm that the Board comprises seven members, as proposed by the Nomination Committee.

SOKLI OY

In late 2021, Finnish Minerals Group initiated a scoping study for the Sokli mining project. Comprehensive surveys of the deposit continued until the end of 2022, followed by a more detailed data analysis. In our opinion, the survey and analysis work should continue to the next phase.

In addition to phosphate and iron, the ore in Sokli contains rare earth elements (REE) needed in the green transition and the electrification of transport. Other minerals in the deposit include e.g. manganese, vermiculite, niobium and uranium. The scoping study also included identifying new solutions for the project's infrastructure and logistics. We assessed the possibility of minimising the environmental impact of production by relocating some of the mine's production phases.

The Supreme Administrative Court's consideration of the environmental and water management permit for the extraction of phosphorus and iron ore continued based on the previous operator's permits from 2018. In its decision of March 2022, the Court returned the environmental and water management permit for consideration to the Regional State Administrative Agency for the re-evaluation of uncertainties. No resolution was made in the procedure concerning the expansion of the mining concession during 2022.

In the summer, we held an open house in Sokli and coffee sessions at our office in Savukoski through the year. We also developed our feedback system and gave our stakeholders regular progress reports on the project.

Based on current information, the total investment in opening the Sokli mine would be EUR 1–1.5 billion. If realised, the mine would create new jobs in Savukoski and increase the demand for services and goods both locally and more widely.

Battery value chain

Strong global electric car sales continued. In 2022, approximately 10.1 million (2021: 6.6 million) electric cars were sold worldwide, which is about 53 percent more than in the previous year. In Europe, the sales of electric passenger cars and light commercial vehicles increased by 8.5 percent.

By the end of 2022, the emerging collective capacity for European cell production was more than 1,430 GWh a year by 2035 (Benchmark Minerals, January 2023). Battery cells are needed for the electrification of transport. Cell production also requires battery materials production, and Finnish Minerals Group is meeting this need with its projects.

During the year, we worked mainly on the Hamina pCAM project, the Kotka CAM project and the anode material project in Vaasa. Led by FREYR Battery, work on the Vaasa battery cell project we announced in 2021 progressed to the EIA programme phase in 2022.

CNGR Finland Oy, a joint venture we established with CNGR Advanced Material with a holding of 40 percent, started to advance the Hamina pCAM project in May. The plant's initial phase target was raised from 20,000 tonnes to 60,000 tonnes over the course of the year. CNGR Finland also started drafting the environmental permit application based on the 60,000 t/a capacity.

In the Kotka CAM project, our negotiations on establishing a joint venture with our partner Beijing Easpring Technology continued. However, Russia's war of aggression against Ukraine slowed down the negotiations. In late 2022, it was time to start getting ready to work on the environmental permit application. Capacity has been set at 50,000 tonnes a year for the plant's initial phase.

In 2021, our project company Finnish Battery Chemicals signed preliminary agreements with the cities of Hamina and Kotka on industrial sites where pCAM and CAM plants can be established. Both plots offer good opportunities for expanding the plants in the future. Preparatory earthworks were carried out on the plots in anticipation of the actual construction project.

In October, we announced an anode material project based in Vaasa with Epsilon Advanced Material. The cooperation started with the preparation of the environmental impact assessment program. In addition, it was agreed to start the preliminary technical-economic assessment work at the beginning of 2023.

Over the course of the year, we also negotiated with a few other potential business partners on a variety of projects.

Research and development activities

Our research and development activities support the company's goals of creating a responsible mineral and battery value chain in Finland. We work towards the vision of climate neutrality.

Our R&D projects are divided between the business areas and their operational development activities and our innovation team, which is responsible for strategic R&D activities. This way we can focus our resources and guarantee business continuity for the R&D work and business areas and, on the other hand, the long-term competitiveness of Finnish Minerals Group and Finnish minerals.

Our work to develop mineral raw material traceability and indicators for responsibly produced raw materials continued. Better traceability and tracking of minerals along the entire supply chain is important for enabling battery and car manufacturers to verify that minerals are produced responsibly. Responsibly produced raw materials bring competitive advantage to producers of materials and manufacturers of end products.

During the year, we also continued our work in the Finnish BATTRACE project and our cooperation with Circulor to test the traceability of Terrafame's product. We also joined the Global Battery Alliance (GBA), the goal of which is to build a responsible battery value chain by 2030. The GBA aims to establish a low-carbon battery value chain, safeguard human rights and foster responsible economic development. We were an active player in the GBA's working groups for establishing responsibility metrics for the upcoming battery passport.

In the business areas, we continued to develop investment projects, to actively support the portfolio companies and the related R&D activities, such as actions aimed at reducing sodium sulphate emissions in the battery value chain, and to develop Terrafame's battery chemicals plant investment through IPCEI (Important Project of Common European Interest) cooperation.

We have focused our strategic research, development and innovation (RDI) activities to an R&D portfolio of three thematic areas. The objective of strategic R&D projects is to reduce Europe's and Finland's dependency on critical raw materials and to diversify Finnish Minerals Group's business.

The first of the projects selected as strategic priorities concerns assessing Terrafame's and Sokli's rare earth element (REE) potential and determining their commercial value. The long-term goal of the project is to utilise Finnish REE raw materials in the achievement of climate neutrality.

The second strategic priority is mineral substitution, i.e. the replacement of minerals with renewable or recycled raw materials. The goals are increasing responsibility within the battery value chain and reducing the carbon footprint with renewable alternatives.

The third strategic priority concerns the development of next-generation battery technologies and chemistry. The work includes assessing the possibilities and impact of new technologies on Finnish Minerals Group and its portfolio companies.

Operations of Terrafame Oy

Production and deliveries

Terrafame's strategic goal is to enhance low-carbon mobility with sustainable battery chemicals. The production ramp-up initiated in 2021 continued at the new battery chemicals plant in 2022, and the battery chemicals business net sales grew to 35 percent of total net sales. Terrafame also made an annual production record in nickel production.

Battery chemicals business net sales increased to EUR 207.1 (2021: 27.1) million. Metal intermediates business net sales were EUR 377.3 (2021: 351.3) million. Solid basic production, strong growth in battery chemical operations and higher metal prices compared to the reference year increased Terrafame's net sales by 54 percent to EUR 584.4 (378.4) million.

Terrafame continued to supply battery chemicals during 2022 and signed a multi-year agreement on the supply of nickel sulphate with Renault Group. The company also continued to sell nickel-cobalt sulphide and zinc sulphide to Trafigura Group.

In December, the company decided to start the recovery of uranium as a by-product by summer 2024 at the latest.

Occupational safety

In Terrafame's operations, the most significant occupational safety risks are associated with maintenance operations, construction works, large machinery and the use of chemicals. However, most injuries are sustained during normal installation work or as a result of slipping and falling in the yard, for example.

The project to develop the company's operating culture launched in late 2020 and completed at the end of 2022 had a positive impact on occupational safety: the number of lost-time injuries of Terrafame's employees decreased clearly during 2022. Special attention was paid to the development of partners' safety culture, and the accident frequency rate of our partner companies' employees fell below 10 for the first time in the history of Terrafame's operations. The updated safety bonus, which also takes into account accidents among partner companies' employees, was introduced in early 2022.

The 12-month accident frequency rate (LTIFR), or the number of accidents resulting in absence per one million person-hours, was 4.3 (2021: 5.5) for Terrafame's employees and 6.4 for all those working in the industrial site (2021: 8.9).

Market environment

The market conditions in 2022 as a whole were extraordinary. In the first half, restrictions were in place due to COVID-19 and Russia invaded Ukraine. The discontinuation of raw material imports from Russia significantly increased costs for Terrafame. The nickel market experienced high volatility.

In 2022, approximately 10.1 (2021: 6.6) million electric cars were sold worldwide. All vehicle categories included, the sales weighted average size of electric car batteries in December 2022 was 51.9 kWh (2021: 48.2 kWh). The market share of NCM 811 batteries with high nickel content increased from 15 percent in December 2021 to 20 percent in December 2022. The market share of NCM 622 batteries was 21 percent in December 2022 and 27 percent in December 2021, while the shares of NCM 712 batteries were 5 percent and 7 percent, respectively.

The price of nickel on the London Metal Exchange (LME) was clearly higher throughout 2022 than in the previous year. The average market price of nickel in 2022 was USD 25,585 per tonne (2021: 18,469), which is 39 percent higher than in 2021.

At the end of 2022, the total combined nickel stocks of LME and Shanghai Futures Exchange (SHFE) stood at 57 878 tonnes, which corresponds to demand of about a week.

The average EUR/USD exchange rate was 1.05 in 2022, compared to 1.18 in 2021.

Cash flow and financial position

In 2022, cash flow from operating activities totalled EUR 51.8 (2021: 35.3) million, of which change in net working capital comprised EUR -82.0 (2021: 15.4) million. Cash flow from investment activities was EUR -75.5 (2021: -136.9) million.

At the end of 2022, the company's cash and cash equivalents totalled EUR 45.5 (2021: 63.5) million.

Terrafame's balance sheet total on 31 December 2022 was EUR 1,128.1 (1,006.7) million. Year-end inventories totalled EUR 288.9 (233.9) million. Trade receivables totalled approximately EUR 66.7 (24.2) million at the end of the financial period. Other receivables totalled approximately EUR 0.9 (0.2) million. Prepaid expenses and accrued income totalled approximately EUR 14.4 (1.1) million.

Shareholders' equity on 31 December 2022 was EUR 439.1 (2021: 384.8) million. The total amount of debt was EUR 457.0 (2021: 389.8) million. In addition to this, the balance sheet includes a rehabilitation provision for mine closure and environmental clean-up costs amounting to EUR 232.0 (2021: 232.0) million.

Terrafame's equity ratio at the end of the financial period was 38.9 percent (2021: 38.2 percent), and net gearing was 44.7 percent (2021: 42.6 percent). Cash flow hedging against the weakening of the US dollar and decline in metal prices continued during the financial period 2022 in line with the company's hedging policy.

Financing arrangements

During 2022, Terrafame reduced debt financing raised from its shareholders worth a total of approximately EUR 70 million. The repayments for December 2022 and April 2023 totalled approximately EUR 68 million and were postponed to the end of 2023.

Of the four-year USD 90 million unsecured financing arrangement signed with an international bank in September 2021, the remaining USD 70 million was drawn out during 2022. After the instalment-free period ended, the first repayment was made at the end of December.

The company's other financing arrangements to cover its need for working capital include, for example, around EUR 50 million in account facilities and a receivables factoring agreement of USD 50 million signed with an international bank in late 2022.

According the new permit, the new environmental guarantee is EUR 324.1 million. A process of covering the guarantee is ongoing. The company has a valid contract of EUR 161 million to cover the need for guarantee in accordance with the previous environmental permit.

Environment

In 2022, the metal and sulphate concentrations and sulphate load of discharge water complied with the environmental permit conditions. The discharge of sulphate into water bodies is a key environmental impact of Terrafame's production activities, which is why the company has developed its operations in such a way that sulphate is recycled more effectively back into the process. 12 763 tonnes was used of the environmental permit's sulphate quota of 16 300 tonnes (2021: 14 492 tonnes used).

The most significant environmental risks in Terrafame's operations are related to leach cycle management and water management in bioleaching. Environmental safety related to process water management in bioleaching has a very high priority in the company's day-to-day operations.

The company has set a target to reach carbon neutrality in its own operations by 2039.

Permit matters

In June, the Regional State Administrative Agency (RSAA) for Northern Finland issued a decision on Terrafame's environmental and water management permit covering all Terrafame's operations. The master permit determines the scope of all operations (including new short-term plans), sets emission limits and defines an environmental guarantee for discontinued operations. The new permit also enables ongoing development projects to proceed as planned.

The permit decision will increase Terrafame's environmental guarantee from EUR 138 million to EUR 324 million, which is very high, even in international comparisons. In late 2022, the company filed an application with the Vaasa Administrative Court about accounting principles of the guarantee.

In June, Terrafame announced that the environmental permit application for the ore body in Kolmisoppi and the expansion of the mining concession had been submitted to the RSAA.

Personnel

During 2022, approximately 1 500 people worked regularly in Terrafame's industrial site. At the end of the year, the company employed 763 (2020: 879) people. The company also hired 90 people for summer jobs.

A total of 783 (883) employees (full-time equivalent, FTE) on average worked in the industrial site during the review period through partner companies and subcontractors. The number of external personnel is lower especially due to the decrease in those working on the battery chemicals plant construction project.

Financial review and key figures

Finnish Minerals Group companies (consolidated)

The Group companies' net sales in the financial year 2022 totalled EUR 584,4 (2021: 378.5) million, EBITDA totalled 147,2 (2021: 20.4) million, and operating profit was EUR 87,3 (2021: -29.0) million. The profit/loss before tax was 55,7 EUR (2021: -51.0) million. The profit for the financial year was EUR 79,0 (2010: -51.2) million. The consolidated total assets of Finnish Minerals Group companies amounted to EUR 1,225.6 (2021: 1,114.3) million.

The Group companies' return on equity was 15.1 (2021: -10.4) percent and equity ratio 45.7 (2021: 44.0) percent. The shareholders' equity totalled EUR 560.1 (2021: 489.7) million, of which the share of non-controlling interests was EUR 173.6 (2021: 151.2) million. Liabilities totalled EUR 460.3 (2021: 392.6) million and provisions EUR 205.3 (2021: 232.0) million. The debt amounted to EUR 241.9 (2021: 227.4) million, of which EUR 139.7 (2021: 115.5) million were current and EUR 102.2 (2021: 115.9) million were non-current liabilities.

Terrafame Oy (subsidiary)

The net sales of our subsidiary Terrafame for the financial year 2022 were EUR 584.4 (2021: 378.4) million, EBITDA EUR 152.1 (2021: -48.8) million, and operating result EUR 93.9 (2021: -95.3) million. The total assets of Terrafame amounted to EUR 1,128.1 (2021: 1,006.7) million.

Shareholders' equity at the end of 2022 was EUR 439.1 (2021: 384.8) million. The total amount of debt was EUR 457.0 (2021: 389.8) million. In addition to this, the balance sheet includes a rehabilitation provision for mine closure and environmental clean-up costs, which is EUR 232.0 (2021: 232.0) million. Equity ratio at the end of the financial period was 38.9 (2021: 38.2) percent, and net gearing was 44.7 (2021: 42.6) percent.

Terrafame's capital expenditure totalled EUR 83.0 (117.9) million in 2022. Of this total, EUR 13.1 (57.6) million was used to improve productivity and increase capacity, and EUR 69.9 (60.3) million was used to sustain operations.

The most important investments in productivity improvement and capacity growth were related to the completion of the battery chemicals plant, the elimination of production bottlenecks and preparatory work to enable the exploitation of the Kolmisoppi deposit.

Investments in sustaining production mainly consisted of preparatory work related to the exploitation of the next sections of the Kuusilampi mine. Other significant investments included the start-up of the construction of a new section of the waste rock area, changes to the conveyors in the secondary leaching area and preparatory work for the new secondary sections (5–6).

Non-financial information

We develop our social responsibility on the basis of, for example, the ISO 26000 standard and the Government Resolution on State Ownership Policy, and our work is linked to the UN Sustainable Development Goals. Our aim is to identify our responsibility in various situations and the stakeholders affected by our operations.

Through the targets set in our remuneration programme, responsibility is linked to our activities as a whole, as well as to the work of each employee and executive staff member. The performance targets used as basis for remuneration are linked to the objectives set in the company's corporate responsibility programme.

KEY FIGURES

Consolidated	**2022**	**2021**
Net sales	EUR 584.4 million	EUR 378.5 million
EBITDA	EUR 147.2 million	EUR 20.4 million
Operating profit/loss	EUR 87.3 million	EUR -29.0 million
Operating profit, %	14.9%	-7.7%
Equity ratio	45.7%	44.0%
Total assets	EUR 1,225.6 million	EUR 1,114.3 million
Wages and salaries	EUR 47.6 million	EUR 47.0 million
Average number of personnel	876 persons	935 persons

Parent company	**2022**	**2021**
Net sales	EUR 1.7 million	EUR 1.7 million
EBITDA	EUR -4.4 million	EUR -3.2 million
Operating profit/loss	EUR -4.5 million	EUR -3.3 million
Operating profit, %	-269.9%	-188.5%
Equity ratio	99.7%	99.8%
Total assets	EUR 580.3 million	EUR 575.9 million
Wages and salaries	EUR 3.1 million	EUR 2.3 million
Average number of personnel	32 persons	21 persons

Key figure calculation formulas

Equity ratio, %

$$\frac{100 \times \text{Equity}}{\text{Total assets – advances received}}$$

EBITDA

Operating profit + depreciation + amortisation + impairment

EBITDA, or earnings before interest, taxes, depreciation, and amortisation, is an Alternative Performance Measure (APM) defined by the European Securities and Markets Authority (ESMA), which Finnish Minerals Group uses in its reporting as a measure of the company's overall financial performance. EBITDA provides useful additional information in the company's financial statements, and the company management monitors this key performance measure internally.

The objectives for developing responsibility set in our corporate responsibility programme for 2020–2024 are related to social impact, a sustainable value chain and responsibility for the environment and climate. The progress made in achieving these objectives in 2022 is discussed in the beginning of the Annual Report.

Environmental responsibility

Minimising the carbon footprint is a key goal for the European automotive industry, reflected in the battery value chain industry as a whole. A low carbon footprint is a key competitive factor also in the production of battery minerals, chemicals and materials.

Late 2021 saw the launch of carbon footprint calculation for the pCAM and CAM plants planned to be established in Kymenlaakso in a cradle-to-gate assessment covering all the stages of product life cycle. According to the results, the carbon footprints of the products of the plants will be considerably low compared to the global market. The calculations will be specified further as designing the plants progresses.

In late 2022, we supported our portfolio company CNGR Finland in preparing an environmental permit application for the pCAM plant in Hamina, to be submitted to the permitting authority in early 2023. In the project for the CAM plant in Kotka, our environmental work focused on mapping the current state of the local environment, developing runoff water management and enhancing energy recovery.

The scoping study of the Sokli mining project was completed in late 2022. The premise was to minimise the environmental impact of mining by rethinking the location of functions and the logistics solutions. According to the study, ore and tailings processing could take place outside of Sokli. It was decided to review the survey and analysis results with various stakeholders in early 2023. We also continued to do sampling and follow-up measurements of groundwater and surface water as a baseline survey. In addition, we did biological monitoring and nature surveys related to biodiversity.

Our subsidiary Terrafame kept enhancing environmental responsibility in accordance with its responsibility programme. The company's goal is to achieve carbon-neutral production in its own operations by 2039. Our portfolio company Keliber ranked high in the comparison of low-carbon lithium chemical producers by consultancy company Wood Mackenzie. Keliber aims to start lithium hydroxide production in 2025.

The treatment of sodium sulphate in industrial processes remained a key environmental responsibility project in 2022 as well. We finalised the commercial circular economy concept with Adven Oy, a company specialising in industrial energy and water solutions. In late 2021, our joint venture Adven-FMG Sodium Sulphate Solutions Oy received EUR 1.2 million in funding to pilot the concept and, in late 2022, a EUR 15 million investment aid for circular economy, both from Business Finland. The funding helped us reach the preparatory phase of piloting the concept and making plans for industrial-scale solutions.

Adven-FMG Sodium Sulphate Solutions is presumably the world's first circular economy company aiming to recycle the sodium sulphate in industrial discharge water into commodity chemicals for the industry. As a partner in the joint venture, Finnish Minerals Group has raised discussion on the possibilities of recycled chemicals with potential customers and introduced a technology concept for supporting the battery value chain's industrial operators in enhancing their environmental responsibility.

Tracking the origin of minerals and linking information on the environmental, social and economic factors to minerals has been one of our key environmental responsibility efforts during the previous years as well. In 2022, we became a member of the Global Battery Alliance (GBA), through which we have contributed to the development of a responsible battery value chain with more than 100 battery companies, organisations and NGOs. The objectives of the GBA include creating a global battery passport. In late 2022, the GBA published the Greenhouse Gas Rulebook, a set of guidelines for the calculation of greenhouse gas emissions from the production of battery materials and batteries.

Social responsibility and human resources

The companies of Finnish Minerals Group agree to respect the UN Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights, as well as the ILO Declaration of Fundamental Principles and Rights at Work. Early in the year, we published the Group's human rights policy, according to which the company CEOs are responsible for human rights affairs in general, while the chief human resources officers and chief responsibility officers are responsible for interpreting and monitoring the application of the policy.

Based on our 2021 survey results, at Group level, our most significant human rights risks concern occupational safety and health, equality and non-discrimination, right to a healthy environment and adequate standard of living. Human rights affairs are also part of the risk management policy and risk analysis of Finnish Minerals Group.

As a company, we participated in the activities of various communities throughout the year. Alongside developing our own industrial projects, we participated in the activities of the national battery cooperation body established by the Ministry of Economics Affairs and Employment. It is the cooperation body's task to, for example, participate in drafting Finland's positions on key issues related to the battery sector and ensure that battery value chain development is taken account of in the innovation and business policy. We also participated in the activities of various working groups of the Finnish Mining Association and the advisory group on batteries set up by the Chemical Industry Federation of Finland. In late 2022, we were involved in preparing the establishment of a new interest organisation, Akkuteollisuus ry.

Through our R&D activities, we participated in several projects that brought together companies as well as research organisations and universities from Finland, the EU and globally. At the national level, we were involved in the BATTRACE project for developing the traceability of mineral raw materials. At the European level, we joined Euromines and continued our cooperation with the European Raw Materials Alliance (ERMA) and the Batteries European Partnership Association (BEPA). After joining the Global Battery Alliance (GBA), our experts participated in creating carbon footprint calculation guidelines for lithium-ion batteries used in electric cars.

During the year, our experts gave presentations and participated in panel discussions in a number of seminars both in Finland and abroad on topics such as the company's battery value chain development projects, raw materials and responsibility.

Late 2022 saw the reform of our organisation, the basic pillars of which were created in 2018. The changes made are aimed at improving internal cooperation and advancing the implementation of strategic projects. Our reformed organisation is based on two business areas: Raw Materials and Battery Value Chain. We also upgraded the team focused on innovation and EU affairs into a support function.

Our company's occupational safety and health committee started its work in the beginning of 2022. The four-person committee is tasked with making proposals on, for example, working conditions, occupational safety and health training and work ability. The new committee prepared a risk assessment of working conditions and workplace hazards and wrote an occupational safety and health action plan for use in advancing improvements.

Regarding office work, emphasis remained on minimising the risk of coronavirus and other infectious diseases. Restrictions were gradually lifted during the spring. The personnel took a total of 150 days of sick leave during the year. There were no accidents resulting in absence from work.

At the end of the financial period, Finnish Minerals Group and its wholly owned subsidiaries employed 37 people (2021: 30), three of whom were trainees. We hired people for tasks such as project development and financial analysis of investments. We also hired summer workers.

A feedback channel was added to the website of Finnish Minerals Group in 2019 to provide the company's employees as well as individuals and communities outside the company a way of raising any special concerns that they may have about what the company does. The company's process for dealing with feedback is also described on the website. No concerns were raised during 2022.

Corporate governance

The main rules and regulations governing a state-owned special-purpose company are laid down in the Limited Liability Companies Act of Finland (624/2006) and the State Shareholdings and Ownership Steering Act (1368/2007). The management of Finnish Minerals Group is also guided by the Articles of Association, the Government Resolution on State Ownership Policy, the corporate governance code issued to the company, and the policies and guidelines adopted by the company's Board of Directors. In addition to the parent company, this guidance also applies to wholly-owned subsidiaries.

The General Meeting of Shareholders, the Board of Directors and the CEO are responsible for Finnish Minerals Group's administration and operations. The highest decision-making body of the company is the General Meeting of Shareholders. The company's Board of Directors is responsible for managing the company and for the appropriate organisation of its operations. The Board of Directors has appointed its members to form three committees: the Personnel and Remuneration Committee, the Responsibility Committee and the Audit Committee (established in 2022).

Until the 2022 General Meeting of Shareholders, the Chair of the Board of Directors of Finnish Minerals Group was Antti Kummu, and the other Board members were Pauli Anttila, Teija Kankaanpää, Ilpo Korhonen, Janne Känkänen (Vice Chair), Jukka Ohtola and Eeva Ruokonen. From the General Meeting onwards, the Board of Directors consisted of Antti Kummu (Chair) and Board members Pauli Anttila, Teija Kankaanpää, Ilpo Korhonen, Olavi Huhtala (Vice Chair), Jukka Ohtola and Eeva Ruokonen. All Board members are independent of the company. Two out of seven Board members are not independent of the company's sole shareholder, the State of Finland. The company's Board of Directors complies with the rules of procedure it has approved.

Until the Annual General Meeting of 2022, the members of the Audit Committee were Pauli Anttila, Janne Känkänen and Jukka Ohtola. After the Annual General Meeting, Känkänen left the committee and Ilpo Korhonen started as a new member. The committee's Chair for the whole year was Pauli Anttila.

The members of the Personnel and Remuneration Committee until the Annual General Meeting were Antti Kummu, Ilpo Korhonen and Janne Känkänen. After the Annual General Meeting, Känkänen left the committee and Olavi Huhtala started as a new member. The committee's Chair for the whole year was Antti Kummu.

Until the Annual General Meeting 2022, the members of the Responsibility Committee were Eeva Ruokonen, Teija Kankaanpää and Ilpo Korhonen. After the Annual General Meeting, Korhonen left the committee and Pauli Anttila started as a new member. The committee's Chair for the whole year was Eeva Ruokonen.

The Authorised Public Accountants KPMG Oy Ab acted as the auditor of Finnish Minerals Group and its subsidiaries in 2022, with Authorised Public Accountant Antti Kääriäinen acting as the principal auditor.

Shares and shareholders

The State of Finland owns Finnish Minerals Group's entire share capital that on 31 December 2022 consisted of 588,408 shares. Each share entitles its holder to one vote.

Related party governance

The Board of Directors of Finnish Minerals Group has confirmed the policy on related party transactions for the Group companies. The key related parties of the Group include the State of Finland, which is the parent company's only shareholder, and the associated company Keliber Oy, CNGR Finland Oy and Adven-FMG Sodium Sulphate Solutions Oy, Galena Private Equity Resources Investment 2 L.P., Galena Private Equity Resources Investment 3 L.P. and Galena Private Equity Resources Investment 4 L.P. funds, as well as Trafigura Ventures V B.V. The related parties also include the Board members, CEOs and management team members of Group companies, persons responsible for Terrafame's commercial agreements, immediate family members of persons referred to here and any entities in which they or their immediate family members exercise control or considerable influence. Finnish Minerals Group's related parties also include companies in which the Government of Finland exercises control or considerable influence. The company has applied an exemption pursuant to which it only reports significant business transactions with Government-related companies.

Financing arrangements are in place between Terrafame and Trafigura Group Pte. Ltd., between the company and three funds – Galena Private Equity Resources Investment 2 L.P., Galena Private Equity Resources Investment 3 L.P. and Galena Private Equity Resources Investment 4 L.P. – and between the company and Finnish Minerals Group. The value of Terrafame's related-party borrowings is EUR 121.4 million. The commercial agreements between Terrafame and Trafigura Nat Gas Limited generated EUR 686.6 million in sales during the financial year. Terrafame has spent approximately EUR 0.5 million on legal and other administrative services and approximately EUR 0.2 million on management services for product development projects purchased from Finnish Minerals Group.

The Group companies' related party transactions are described in the notes. Financing arrangements with related-party companies are reported in the financing arrangements section of the annual review.

All business transactions between the Group companies and their related parties conformed to accepted market practices.

Remuneration of the Board of Directors and other executives

Finnish Minerals Group has published a description of the company's remuneration policy on its website at mineralsgroup.fi. In our company, remuneration is a management tool that supports the implementation of the company's strategy and the achievement of business targets. We follow the instructions of the state-owner in our remuneration practices.

The monthly fees paid in January–March 2022 were EUR 1,500 to the Chair of the Board of Directors of Finnish Minerals Group, EUR 850 to the Vice Chair, and EUR 700 to each Board member. As of the beginning of April 2022, the monthly fees were EUR 2,500 to the Chair, EUR 1,600 to the Vice Chair and each Chair of the Committee, and EUR 1,300 to the other Board members. In addition to the monthly fees, the meeting fee paid for each Board and committee meeting attended was EUR 500 in January-March 2022 and EUR 600 as of the beginning of April 2022. In 2022, the Board of Directors of Finnish Minerals Group met a total of 12 times (2021: 17). In addition, the Personnel and Remuneration Committee met three times (2021: 4), the Responsibility Committee four times (2021: 3) and the Audit Committee seven times.

The total amount of monthly fees paid to Board members was EUR 118,350 (2021: EUR 58,650) and the total amount of meeting fees EUR 65,000 (2021: (EUR 55,000). No performance-based compensation or fees were paid to Board members.

Board members do not own shares in the company and the company has no option scheme.

Apart from the parent company Finnish Minerals Group and subsidiary Terrafame, no compensation or fees were paid to the members of the Boards of Directors of the other Group companies. The subsidiary Terrafame and portfolio company Keliber make their own reports on the remuneration paid to the Board members and executives.

The remuneration of the Chief Executive Officer of Finnish Minerals Group consisted of a fixed salary, phone and meal allowances, and a performance bonus of up to 30% of the CEO's annual salary. The CEO is not covered by a contribution-based or other additional pension insurance. CEO Matti Hietanen does not own shares in the company, and the company has no option scheme.

The total amount of remuneration, excluding the performance bonus, paid to the CEO, Matti Hietanen, in 2022 was EUR 216,226 (2021: (EUR 216,186). The CEO received a performance bonus of EUR 31,001. The total amount of remuneration paid to the other members of the Executive Leadership Team was EUR 695,368 (2021: EUR 632,479). Of this amount, the performance bonuses paid for 2021 accounted for EUR 82,473.

The amounts of performance bonus to be paid for 2022 in 2023 are EUR 32,434 to the CEO and EUR 109,685 to the other members of the Executive Leadership Team.

Estimate of major risks and uncertainty factors affecting operations

The Boards of Directors and Chief Executive Officers of the Group companies are responsible for organising internal control, risk management and internal auditing within the companies. In 2022, internal auditing was organised in cooperation with PricewaterhouseCoopers Oy.

In 2022, Finnish Minerals Group updated its risk management policy. The update also included evaluating the major risks associated with the company's activities. The aim is to identify risks, assess their probability and impact on the company's activities and, where necessary, decide which measures to take to manage the risks. The Audit Committee and the company's Board of Directors regularly monitor and assess operational risks and risk management measures.

Remuneration of the Board of Directors

(EUR)	Monthly fees	Attendance fees	Total remuneration	Board meetings*	Committee meetings**
Antti Kummu	27,000	7,400	34,400	12/12	3/3
Pauli Anttila	16,500	12,700	29,200	12/12	11/11
Olavi Huhtala	14,400	5,400	19,800	9/9	1/1
Teija Kankaanpää	13,800	8,700	22,500	12/12	4/4
Ilpo Korhonen	13,800	9,800	23,600	12/12	7/7
Janne Känkänen	2,550	2,000	4,550	1/3	4/4
Jukka Ohtola	13,800	10,300	24,100	12/12	7/7
Eeva Ruokonen	16,500	8,700	25,200	12/12	4/4
Total remuneration 2022*	**118,350**	**65,000**	**183,350**		

*) Meeting fee for December 2022 was paid in January 2023.

**) Meeting fee for the January 2022 meeting of the personnel and remuneration committee was paid in February 2023.

From the perspective of shareholder value, the key risks of Finnish Minerals Group relate to the business activities of its subsidiary, Terrafame, and to the company's ability to implement projects in the battery industry. Terrafame's business is affected by various risks typical to the mining industry, such as fluctuations in exchange rates and in the price of nickel and zinc, the counterparty risk associated with customers and other business partners, as well as risks related to the prices of major raw materials and energy. Terrafame's risk management and operational risks are discussed in Terrafame's own reports. The battery industry's project implementation risks are centrally related to economic feasibility assessment, permitting processes and market changes.

Significant events after the end of the financial period

The financial period of Finnish Minerals Group ended on 31 December 2022. The company has made two significant announcements after that date.

In February, we informed Sokli's stakeholders and the general public about the assessment results and future of the mining project planned in Savukoski. We notified the Regional State Administrative Agency for Northern Finland about cancelling the project's permit procedure initiated by the previous operator. Our new preliminary assessment shows that a new approach needs to be applied in the EIA and permit procedures of the potential investment project.

Also in February, we announced the signing of a cooperation agreement with listed (NYSE) company FREYR Battery for the assessment of possibilities to establish an LFP (lithium iron phosphate) cathode material plant in Vaasa.

Estimate of future developments

Finnish Minerals Group continues as the Group's parent company, whose core activities are to build a responsible battery value chain in Finland, invest in the mining and battery industry, and carry out technological development work. We will do investment preparations for the cathode material projects in Hamina and Kotka and pre-studies on the battery value chain projects planned for Vaasa. Our aim for the Sokli mining project is to move to the next assessment phase. We are also expecting a decision on the expansion of the Sokli mining concession during 2023.

Our subsidiary Terrafame will continue to ramp up production at the battery chemicals plant in accordance with the business plan. Increased uncertainty in Europe's geopolitical situation is not expected to affect Terrafame's production and deliveries. Considerable uncertainties are related to base metal and battery chemical prices despite the positive trends early in the year.

Finnish Minerals Group will also continue to streamline operations and enhance profitability.

Board of Directors' proposal for the disposal of the result

The result of Finnish Minerals Group for the financial year 2022 shows a profit of EUR 4,231,645.06. On 31 December 2022, the distributable equity of Finnish Minerals Group totalled EUR 575,894,559.78.

The Board of Directors will propose to the General Meeting of Shareholders that Finnish Minerals Group's loss for the financial period be recorded in the retained earnings account and that no dividend be paid.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

(EUR 1,000)	Note	2022	2021
Net sales	1.1	584,414	378,458
Cost of goods sold	1.3	-453,603	-368,971
Gross profit		130,810	9,487
Other operating income	1.4	5,719	2,068
Sales and marketing expenses	1.5	-2,406	-3,030
Administrative expenses	1.6	-25,939	-23,694
Other operating expenses	1.7	-20,883	-13,847
Operating profit/loss		87,301	-29,015
Finance income and cost	1.8		
Other finance income		3,938	1,423
Change in fair value, other investments		0	66
Interest and other finance expenses		-42,358	-21,926
Reversals of impairment losses		8,155	-1,502
Share of profit from associated company and joint venture	1.15	-1,295	0
Total finance income and cost		-31,561	-21,939
Profit/loss before tax		55,740	-50,954
Income taxes	1.9	23,321	-241
Profit/loss for the period		**79,061**	**-51,194**
Other comprehensive income			
Items that may be reclassified to profit or loss in subsequent periods			
Cash flow hedging – effective portion of changes in fair value reserve	1.20	-13,576	-44,771
Taxes on items that may be reclassified to profit or loss in subsequent periods		2,715	8,954
Other comprehensive income, net		-10,861	-35,817
Total comprehensive income for the period		**68,200**	**-87,011**
Profit attributable to			
Owners of the parent company		53,620	-36,222
Non-controlling interests		25,441	-14,972
		79,061	**-51,194**
Total comprehensive income attributable to			
Owners of the parent company		46,344	-60,272
Non-controlling interests		21,587	-26,740
		68,200	**-87,011**
Earnings per share attributable to the owners of the parent (EUR)			
Basic earnings per share	1.10	91.13	-62.05
Diluted earnings per share		91.13	-62.05
Average number of shares:			
Undiluted		588,408	583,805
Diluted		588,408	583,805

The parent company does not have equity arrangements with a dilution effect on earnings per share.

CONSOLIDATED BALANCE SHEET

	Note	31 Dec 2022	31 Dec 2021
ASSETS			
Non-current assets			
Intangible assets	1.12	9,150	5,017
Property, plant and equipment	1.13	728,890	738,896
Biological assets	1.14	7,712	8,078
Investments in associates	1.15	22,367	12,799
Deferred tax assets	1.21	37,657	11,486
Total non-current assets		**805,776**	**776,277**
Current assets			
Inventories	1.16	288,908	233,854
Trade and other receivables	1.17	82,567	25,846
Cash and cash equivalents	1.18	48,330	78,353
Total current assets		**419,805**	**338,053**
Total assets		**1,225,581**	**1,114,330**
EQUITY AND LIABILITIES			
Equity attributable to equity owners of the parent	1.19		
Subscribed capital		2,258	2,258
Invested unrestricted equity fund		608,291	607,138
Fair value reserve	1.20	-38,060	-30,850
Earnings from previous periods		-239,606	-203,817
Profit/loss for the period		53,620	-36,222
		386,503	338,506
Share of non-controlling interests		173,570	151,226
Total equity		**560,073**	**489,732**
Non-current liabilities			
Deferred tax liabilities	1.21	1,324	1,189
Interest-bearing liabilities	1.25	102,163	115,917
Provisions	1.24	205,251	232,024
Total non-current liabilities		**308,737**	**349,131**
Current liabilities			
Interest-bearing liabilities	1.25	139,700	111,492
Trade and other payables	1.26	217,071	163,976
Total current liabilities		**356,771**	**275,467**
TOTAL EQUITY AND LIABILITIES		**1,225,581**	**1,114,330**

CONSOLIDATED CASH FLOW STATEMENT

	Note	2022	2021
Cash flow from operating activities			
Profit/loss before tax		55,740	-50,954
Adjustments to operating profit/loss	1.27	31,824	21,871
Depreciation and amortisation		59,861	49,400
Change in working capital		-81,739	16,129
Interest paid		-20,404	-4,357
Interest received		2,415	93
Net cash flow from operating activities		**47,696**	**32,182**
Cash flow from investing activities			
Investments in tangible and intangible assets		-80,533	-140,408
Proceeds from sale of tangible and intangible assets		0	79
Investments in associates		-2,600	-3,798
Proceeds from disposal of other investments		0	66
Net cash used in investing activities		**-83,133**	**-144,061**
Cash flow from financing activities	1.27		
Subscription issue		0	77,616
Proceeds from loans		75,769	17,298
Repayment of loans		-67,077	-74
Repayment of lease liabilities		-4,353	-4,119
Net cash flow from financing activities		**4,339**	**90,721**
Change in cash and cash equivalents		**-31,098**	**-21,158**
Foreign exchange rate effect on cash and cash equivalents		1,076	1,329
Cash and cash equivalents at beginning of the period		78,353	98,182
Cash and cash equivalents at end of the period		**48,330**	**78,353**

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Note	Subscribed capital	Invested unrestricted equity fund	Fair value reserve	Retained earnings	Attributable to parent	Attributable to non-controlling interests	Total equity
Equity 1 Jan 2021		2,258	563,054	-6,765	-202,932	355,615	141,076	496,691
Comprehensive income								
Profit/loss for the period		0	0	0	-36,222	-36,222	-14,972	-51,194
Other comprehensive income (adjusted basis)								
Cash flow hedging		0	0	-24,049	0	-24,049	-11,767	-35,817
Total comprehensive income for the period		0	0	-24,049	-36,222	-60,272	-26,740	-87,011
Business transactions with shareholders								
Share issue		0	50,000	0	0	50,000	36,956	86,956
Total business transactions with shareholders		0	50,000	0	0	50,000	36,956	86,956
Changes in subsidiary holdings								
Acquisitions of non-controlling interests not leading to change of control	1.19	0	988	0	0	988	-988	0
Acquisitions of non-controlling interests leading to change of control		0	-6,904	-36	-886	-7,825	921	-6,904
Equity 31 Dec 2021		2,258	607,138	-30,850	-240,039	338,506	151,226	489,732
Equity 1 Jan 2022		2,258	607,138	-30,850	-240,039	338,506	151,226	489,732
Comprehensive income								
Profit/loss for the period		0	0	0	53,620	53,620	25,441	79,061
Other comprehensive income (adjusted basis)								
Cash flow hedging		0	0	-7,277	0	-7,277	-3,584	-10,861
Total comprehensive income for the period		0	0	-7,277	53,620	46,344	21,857	68,200
Business transactions with shareholders								
Share issue		0	0	0	0	0	3,129	3,129
Total business transactions with shareholders		0	0	0	0	0	3,129	3,129
Changes in subsidiary holdings								
Acquisitions of non-controlling interests not leading to change of control	1.19	0	2,141	0	0	2,141	-2,141	0
Acquisitions of non-controlling interests leading to change of control		0	-988	67	433	-487	-500	-988
Equity 31 Dec 2022		2,258	608,291	-38,060	-185,986	386,503	173,570	560,073

ACCOUNTING POLICIES FOR CONSOLIDATED FINANCIAL STATEMENTS, AND NOTES

Basic information about the Group

Finnish Minerals Group is a Group formed by companies operating in the mining and minerals sector, set up to develop the Finnish mining sector and build a battery value chain in Finland. The Group operates internationally and is engaged in the exploration, recovery and mining of ores as well as other mining and quarrying operations, the purchase and sale of mining rights, and any other business based on or related to knowledge acquired in these areas or otherwise suitable for the said areas. In line with its strategy, the Group's parent company focuses on the battery value chain, technological development and active ownership. The Group comprises the parent company Finnish Minerals Group (Business ID 2674050-9), the subsidiary Terrafame Oy (2695013-5), in which the parent has a shareholding of 67.0 percent, and the subsidiaries Finnish Battery Chemicals Oy (2999094-1) and Sokli Holding Oy (3174771-3), in which the parent has a shareholding of 100 percent.

Finnish Minerals Group is a state-owned special-purpose company subject to ownership steering by the Prime Minister's Office, tasked with developing the Finnish battery and mining industry. The current mandate and trade name were given to the company in June 2018. Before that, starting from 2015, the company operated under the name Terrafame Group Oy and focused on its duties as the parent of Terrafame Oy.

Finnish Minerals Group's most important asset item is its subsidiary, Terrafame Oy. Sotkamo-based Terrafame produces nickel, cobalt and ammonium sulphates, as well as nickel, cobalt, zinc and copper sulphides. The company launched sulphate production at the new battery chemicals plant in 2021, where production ramp-up continued in 2022.

In the financial period ending 31 December 2022, the portfolio companies of Finnish Minerals Group included the associated company Keliber Oy (holding 13.9%), the associated company CNGR Finland Oy established in May 2022 (holding 40.0%) and the associated company Adven-FMG Sodium Sulphate Solutions Oy (holding 49.0%).

The parent company is domiciled in Helsinki (visiting address: Keskuskatu 5 B, 8th floor, 00100 Helsinki, Finland). The Group's subsidiary Terrafame Oy was registered in the Trade Register on 5 June 2015, and its address is Malmitie 66, FI-88120 Tuhkakylä, Finland.

Finnish Minerals Group's Board of Directors approved these financial statements in its meeting of 20 March 2023. According to the Limited Liability Companies Act of Finland, shareholders may approve or reject the financial statements in the General Meeting of Shareholders held after their publication. The General Meeting may also decide to amend the financial statements.

Copies of the consolidated financial statements are available at Finnish Minerals Group's office and on the company's website at www.mineralsgroup.fi.

Accounting policies for consolidated financial statements

Basis of preparation

Finnish Minerals Group's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) adopted in the European Union as well as the IAS and IFRS standards and SIC and IFRIC interpretations effective on the date of closing of the accounts, 31 December 2022. The notes to the consolidated financial statements also comply with Finnish accounting and corporate legislation. The financial statement information is reported in tables and related texts in thousands of euros and in the report of the Board of Directors in millions of euros to one decimal place. The comparative figures reported in brackets are figures for the financial year 2021. All the presented figures have been rounded according to general rounding rules, so the sum of the individual figures may be different from the sum presented. Key figures have been calculated using exact values. Comparative information has been adjusted where necessary to correspond with the information of the year under review.

The consolidated financial statements are drawn up on the basis of initial acquisition costs, with the exception of financial assets recognised at fair value through profit or loss, derivatives measured at fair value and biological assets measured at fair value less estimated costs to sell. The assets, liabilities and contingencies acquired through business combinations have been measured at their fair values at the acquisition date.

The preparation of financial statements under IFRS means that Group management must necessarily make certain estimates and judgements concerning the application of the accounting policies. Information about such considerations made by the management with the greatest influence on the figures presented in the financial statements are explained under the item 'Accounting policies requiring consideration by management and crucial factors of uncertainty associated with estimates'.

Subsidiaries

Subsidiaries are entities controlled by the Group. Control exists when the Group owns more than half of the voting rights or otherwise has a controlling interest. The existence of potential voting rights is also considered when assessing the existence of control in the case that the instruments entitling to potential control are currently exercisable. Control exists when the Group, by virtue of being part of the entity, is subject or entitled to its variable returns and is able to influence those returns by exercising it power within the entity.

Acquired subsidiaries are consolidated from the date on which the Group gains control. The consolidation ends on the date on which control is lost.

Intra-group transactions, balances and unrealised gains on intra-group transactions are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset item transferred.

Associated companies

The equity method of accounting has been applied to associated companies. If the Group's share of the losses of an associated company or a joint venture exceeds the carrying amount of the investment, the investment is recognised at zero value in the balance sheet and losses exceeding the carrying amount are not aggregated, unless the Group has agreed to fulfil the associates' obligations. Unrealised gains and losses have been eliminated to the extent of the Group's interest in company/venture. Unrealised losses are not eliminated if the business transaction provides evidence of an impairment of the transferred asset. The Group reports the revenue earned by associated companies or joint ventures below its operating profit in financial income and expenses, in an amount proportional to its interest in the company/venture. Similarly, the Group's share of the changes recognised in the other comprehensive income of the associated company or joint venture is recognised in the Group's other comprehensive income. The Group's associated companies and joint ventures have not had any of the profit and loss items described above during the financial years 2022 or 2021.

Separate recognition of non-controlling interests

Non-controlling interests are separately recognised in proportion to their share of ownership on the balance sheet date in the company's financial result and equity, which first have been adjusted to reflect the accounting policies adopted by Finnish Minerals Group.

Translation of items denominated in foreign currencies

Figures in the consolidated financial statements are shown in euro, the euro being the functional and presentation currency of the parent company, Finnish Minerals Group.

Transactions in foreign currencies are entered in euro at the rates prevailing at the transaction date or average rates provided by central banks. Monetary foreign currency items are translated into euro using the rates prevailing at the balance sheet date. Foreign exchange gains and losses related to business operations are included in the corresponding items of net sales, operating expenses or financial income and expenses.

Operating profit

IAS 1 *Presentation of Financial Statements* does not define the concept of operating profit. The Group has defined it as follows: an operating profit is a net amount derived from net sales plus other operating income, less purchase expenses, purchase expenses are adjusted for changes in inventories (growth in these increases and reductions decrease the operating profit) and expenses from production for own use, less employee benefit expenses, depreciation, amortisation and any impairment losses and other operating expenses. All other items in the income statement are shown below the operating profit. Exchange rate differences are included in the operating profit if they arise from items related to operations with third parties. Otherwise, they are recognised in financial income and expenses. The realised earnings-related impacts of changes in the value of effective hedging instruments covered by hedge accounting are presented uniformly with the hedged item.

Revenue recognition

The revenue of Finnish Minerals Group mainly consists of sales of battery chemicals, fertilisers and semifinished metal products. A large portion of the company's production is sold under long-term contracts, but sales revenue is recognised on the basis of individual sales transactions. The terms of delivery determine when the transfer of control to the customer takes place. Revenue is recognised net of sales-related foreign exchange gains and losses and any applicable sales taxes. Most sales are priced in US dollars. Individual deliveries constitute a separate performance obligation.

According to established business practices, recognition of sales revenue based on a best estimate per delivered batch of metals is, if necessary, adjusted according to the final weighing and analysis data.

The sales revenue recognition of semifinished metal products is based on a advance invoice drawn up upon delivery according to preliminary analysis and measurement results and the market prices for the month preceding the month of delivery. Therefore, the offsets may be variable and will be adjusted as needed on the basis of the final analysis and measurement results. Furthermore, the prices of delivered metals are adjusted to correspond to the market prices of the agreed pricing period. The final analysis and measurement results are normally obtained within a few months.

The sales revenue recognition of battery chemicals is based on an advance invoice drawn up upon delivery according to the analysis and measurement results confirmed by the company and the market prices for the month preceding the month of delivery. Therefore, the offsets may be variable and should be adjusted on the basis of the prices of the battery chemicals delivered, to reflect the market prices for the agreed pricing period if those prices are known.

With regard to deliveries for which final analysis and measurement results have not yet been obtained, the sales prices and euro-denominated valuations are adjusted at the date of reporting so as to correspond to the average market prices of the month of the financial statements and the exchange rates at the balance sheet date. With regard to these deliveries, the company also considers the need to make write-downs due to the changes in analysis and measurement results. No such write-downs have been recorded in the financial statements of 31 December 2022. In addition, the commodity and currency hedges for metal tonnes sold have been taken into account in the valuation of sales.

Government grants

Government grants related to the acquisition of tangible fixed assets have been recognised by deducting the grant from the asset's carrying amount when there is reasonable assurance that the grant will be received and the Group will comply with any conditions attached to the grant. Grants are recognised as deferred income on a systematic basis over the useful life of the asset. Grants receivable as compensation for costs already incurred are recognised as income in profit or loss in the period in which the grant is receivable. Grants received are shown in other operating income.

Pension obligations

The Group companies have pension schemes in accordance with the local conditions and practices. The schemes are generally funded through payments to insurance companies. Currently all pension schemes are defined contribution plans.

Defined contribution plan is a pension plan under which the company pays fixed contributions into a separate entity. The company has no legal or constructive obligation to pay further contributions if the entity does not hold sufficient assets to pay all employees the benefits related to employee service in current and prior periods. Under defined contribution plans the payments are accounted for as an expense for the period for which the payment is made.

Leases

Finnish Minerals Group acts as a lessee, in which role it has mainly leased machinery and equipment, other small appliances, and premises. As a rule, the Group records all its right-of-use assets and lease liabilities associated with leases in its balance sheet. The Group applies the standard's exemptions concerning short-term leases of up to 12 months and goods of a value of up to approximately EUR 5,000. The Group does not recognise these in the balance sheet, but accounts for the lease payments of the abovementioned leases on a straight-line basis over the lease term. The lease term is the period during which the lease cannot be cancelled. It includes the period covered by an extension or termination option, if the lessee is reasonably certain to exercise the option to extend the lease, or not to exercise the option to terminate the lease.

At the inception date of the lease, the Group recognises a lease liability and a corresponding right-of-use asset. A right-of-use asset is initially measured at cost, which includes the original amount of the lease liability, plus any lease payments made at or prior to the inception date of the lease, less lease incentives obtained, plus any initial direct costs incurred by the Group, as well as the estimated restoration costs.

After the inception date of the lease, the right-of-use asset is measured at cost less the accumulated depreciation, amortisation and impairment loss. The asset is adjusted with certain items attributable to the re-measurement of the lease liability. The right-of-use asset is depreciated on a straight line basis starting from the inception date of the lease over the asset's useful life or the lease term. The useful life of the right-of-use asset is determined in the same way as the useful life of corresponding fixed assets held. If necessary, the right-of-use asset is tested for impairment and any impairment losses are recognised through profit or loss.

The original lease liability is measured at the current value of lease payments that were not made at the inception date of the lease. The Group discounts leases using agreement-specific borrowing rates. The value of the lease liability consists of: fixed payments, including factually fixed payments; variable lease payments that depend on an index or a rate and which are initially measured using the index or rate as at the lease's inception date; amounts payable by the lessee based on residual value guarantees; and the purchase option exercise price, if it is reasonably certain that the Group will exercise the option.

In subsequent periods, lease liabilities are measured at amortised cost using the effective interest method. The lease liability is remeasured when there is a change in future lease payments due to a change in the index or rate used to determine those payments, or if there is a change in the amounts expected to be payable under a residual value guarantee. Changes made by the Group in the assessment of a purchase option of an underlying asset or an extension or termination option may also lead to a re-measurement of the lease liability. When the lease liability is remeasured, a corresponding adjustment is made to the asset's carrying amount, or it is recognised through profit or loss if the carrying amount of the right-of-use asset has decreased to zero.

Finnish Minerals Group does not act as a lessor.

Impairment losses

The Group assesses at each balance sheet date whether there is any indication that an asset may be impaired. If any such indication exists, the asset's recoverable amount is estimated.

The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. The value in use refers to the estimated future net cash flows obtainable from the asset or cash-generating unit, discounted to their current value. The value in use is forecast on the basis of circumstances and conditions prevailing at the time of testing. The discount rate takes into account the time value of money as well as the special risks involved for each asset, different industry-specific capital structures and the expected ROI for investors. An impairment loss is recorded when the carrying amount of an asset is greater than its recoverable amount. If the impairment loss is allocable to a cash-flow-generating unit, it is allocated first to reduce the goodwill of the unit and subsequently to reduce other assets of the unit. As at the date of reporting or the end of the reference period, the Group has no goodwill contributing to its valuation.

The impairment loss is reversed if a change has occurred in circumstances and the recoverable amount of the asset has changed since the impairment loss was recognised.

Borrowing costs

Borrowing costs are recognised as an expense for the financial period during which they are incurred. Borrowing costs directly attributable to acquisition, construction or manufacturing of a tangible fixed asset (property, plant and equipment) meeting the criteria shall be capitalised as part of the asset's acquisition cost.

Income taxes

Tax expenses on the income statement consist of the tax based on taxable income for the year and deferred taxes. Taxes based on taxable income for the year are calculated using the applicable tax rates. Taxes are adjusted with any taxes arising from previous periods.

Deferred taxes are calculated from all temporary differences between the carrying amount and taxable amount. Deferred taxes are calculated using the tax rates set at the balance sheet date. Deferred tax assets arising from taxable losses carried forward are recognised up to the amount for which there is likely to be taxable income in the future, and against which the temporary difference can be used.

Property, plant and equipment

Property, plant and equipment, which on 31 December 2022 include buildings and infrastructure, machinery and equipment used in production operations, laboratory equipment, vehicles, roads, and structures for environmental protection, are stated at historical cost less accumulated depreciation and any accumulated impairment losses. Historical cost includes costs that are directly attributable to the acquisition, construction or production of an asset, and borrowing costs that meet the criteria.

Spare parts with a useful life of more than one year have been recognised in property, plant and equipment.

The recovery of ore reserves in the areas identified in the excavation plan requires removing the soil and waste rock overlying the mineral ore deposit. The resulting stripping costs have been capitalised and will be charged to expense as planned under the usage-based depreciation method as the recovery of the identified ore reserves progresses under the excavation plan. This balance sheet item is accounted for and tracked in accordance with the interpretation requirements of IFRIC 20 Stripping costs in the Production Phase of a Surface Mine.

Depreciation charges are not recorded for work in progress or land. Other assets are depreciated using the straight line method so that the depreciable amount – acquisition cost less residual value – is allocated on a systematic basis over the asset's useful life as follows:

Tangible asset	Depreciation period
Roads and power lines	25 years
Buildings and structures	10–40 years
Leaching heap foundations	10–30 years
Machinery and equipment	4–25 years
Stock	5–10 years
Vehicles	5–10 years
Spare parts recognised as PPE	3 years
Environmental containment structures	25 years

The useful life, depreciation methods and potential residual values of assets are reassessed at each reporting date. The reassessment is based on the Group's estimates of ore reserves, mineral resources, production capacity and other relevant factors. Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within other operating income or expenses, respectively, in the income statement.

Intangible assets

Other intangible assets are recorded at cost if the cost is reliably measurable and the future economic benefits for the Group are probable. Other intangible assets consist of expenditures incurred in exploration for and evaluation of mineral resources and IT applications supporting the Group's business operations. The Group's IT applications are amortised over 3–5 years.

The Group applies IFRS 6 Exploration for and Evaluation of Mineral Resources for the demonstration of technical feasibility and commercial viability of extracting mineral resources. IFRS 6 provides that recognised exploration and evaluation assets are classified as tangible or intangible according to the nature of the assets acquired. Once the technical feasibility and commercial viability of mining has been demonstrated, the assets are classified as tangible assets. An impairment test is performed on exploration and evaluation expenditures classified as intangible assets before they are reclassified.

The capitalisation of expenditures incurred in exploration for and evaluation of mineral resources starts when the entity has acquired legal rights to explore in a specific area, and it will continue until the technical feasibility and commercial viability of extracting a mineral resource are demonstrable. Exploration and evaluation expenditures are initially measured at cost using the cost model. Exploration and evaluation expenditures as assets are not depreciated before mining begins. Exploration and evaluation expenditures recognised as assets after mining has begun will form part of the carrying amount of the mine, which is charged to expense via usage-based depreciation.

Recognised exploration and evaluation assets have been classified as intangible assets according to their nature.

Impairment testing is performed on recognised exploration and evaluation assets in accordance with the references of IFRS 6 Exploration for and Evaluation of Mineral Resources. Entities recognising exploration and evaluation assets are required to perform an impairment test on those assets when facts and circumstances suggest that the carrying amount of the assets may exceed their recoverable amount. If the carrying amount exceeds the recoverable amount, an impairment loss is recognised.

According to IFRS 6, one or more of the following facts and circumstances indicate that an entity should test exploration and evaluation assets for impairment:

- The period for which the entity has the right to explore in the specific area has expired during the period or will expire in the near future, and is not expected to be renewed.
- Substantive expenditure on further exploration for and evaluation of mineral resources in the specific area is neither planned or budgeted for.
- Exploration for and evaluation of mineral resources in a specific area have not led to the discovery of commercially viable quantities of mineral resources and the entity has decided to discontinue such activities in the specific area.
- Sufficient data exist to indicate that, although development work in the specific area is likely to proceed, the carrying amount of the exploration and evaluation assets is unlikely to be recovered in full from successful development or by sale.

Research and development costs

Research costs are recognised as an expense in profit or loss once they have been incurred. Development expenditure is capitalised when it is probable that the development project will bring financial gains to the Group in the future and meets the recognition criteria, including technical feasibility and economic viability. Such development projects are mainly related to building a battery value chain in Finland and attracting the related industrial investments. The Group has capitalised development expenditure that is related to projects aimed at establishing precursor cathode active material (pCAM) and cathode active material (CAM) plants in Finland.

Development projects are analysed separately to determine the date on which the capitalisation of development costs can begin for a project. After initial recognition, capitalised development costs are measured at cost less accumulated depreciation and impairment losses. The depreciation period is determined individually for each project. If it is found that the carrying amount exceeds the recoverable amount, the impairment loss corresponding to the difference is recognised in profit or loss.

Biological assets

Biological assets, i.e. living trees on company-owned land, are measured on initial recognition and at each balance sheet date at fair value less estimated point-of-sale costs. The fair values of biological assets other than young seedlings are based on quoted prices in active markets for biological assets. Biological assets, i.e. those physically attached to land, are recognised and measured at their fair value separately from the land.

The fair value of harvest, measured as its value at the time of sale, is deducted from the fair value of the biological assets. The estimated growth of trees is recognised as gains in the fair value of biological assets. The changes in the fair value of biological assets are included in operating profit in the income statement.

Inventories

The Group classifies its inventories into three groups: raw materials and consumables, work in progress, and finished products.

Raw materials and consumables are measured at the average purchase price of the goods in stock. A so-called write-down on slow-moving items is made on the slow-moving goods in the raw materials and consumables inventory. If an item has been in stock for more than a year, a write-down of 25 percent is made. The write-down increases annually by 25 percentage points, so the value of an item that has been stored for more than four years is zero.

Work in progress and finished products (metal content for sale) are presented in the balance sheet as valued at actual production costs but up to the net realisable value of the products on the balance sheet date. Net realisable value refers to the estimated selling price in the ordinary course of business, less the production costs necessary to making work in progress and finished products ready for sale.

The acquisition cost of work in progress and finished products (production cost) includes the fixed and variable costs of production and maintenance that supports production, as well as depreciation on these operations, based on the actual production costs in the production process. Borrowing costs are not included in the acquisition cost.

In semifinished metal product business, work in progress includes metals in the ore in primary and secondary heaps, as well as metals in the leaching process or metal precipitation and filtration process that can be processed for sale as a finished product. The work in progress in the battery chemical business is nickel-cobalt sulphide, which is used as raw material in the refining process. It is valued on the basis of the stage of completion of the main phases of the production process (high pressure acid leaching, extraction and crystallisation).

The amount of metal included in work in progress is determined by calculating the metal tonnes added to and removed from the production process, i.e., the work in progress inventory. The recoverable quantities of nickel, zinc, copper and cobalt included in work in progress are determined on the basis of the estimated ore concentrations based on geological surveys, the estimated recovery percentages of metals in the bio heap leaching process, the recovery percentages of the metal recovery plant and the battery chemicals plant.

Ore concentrations, the amount of metals in the production process and the metals recovery percentage are reviewed monthly.

The value of inventories determined in accordance with the principle of net realisation value includes discretionary factors related to, for instance, the measurement of metal volume in work in progress, metals recovery percentages, production costs, the production time necessary to complete sales, and sales prices.

Financial assets

Financial assets are classified based on the Group's business model for managing financial assets and their contractual cash flow characteristics to the following categories:

- Measured at amortised cost
- Measured at fair value through other comprehensive results
- Measured at fair value through profit or loss.

The classification is based on the Group's business model objective and the contractual cash flow characteristics of the investments. Purchases and sales of financial assets are recognised on the basis of the settlement date. At the time of initial recognition, the Group designates financial asset items as measured at fair value and, in the case of items not measured at fair value through profit or loss, the transaction costs directly attributable to the item will be added to or deducted from it. Financial assets at fair value through profit or loss are recorded at the time of initial recognition in the balance sheet at fair value and transaction costs are recognised in profit or loss.

Classified in the Financial assets measured at amortised cost category are financial assets for which the objective of the business model is to hold financial assets and to collect contractual cash flows consisting solely or capital and interest payments. This item includes trade receivables, loan receivables and other receivables that are non-derivative financial assets. The assets classified in this category are measured at amortised cost under the effective interest rate method. The carrying amount of short-term trade receivables and other receivables is deemed to correspond to their fair value. These items are shown in the balance sheet as short-term assets if they are expected to be realised within 12 months of the end of the reporting period. If necessary, the Group recognises an expected credit loss reduction from the financial assets measured at amortised cost.

The Group applies a simplified procedure for the determination of expected credit losses for trade receivables measured at amortised cost. Under the simplified procedure, credit losses are determined using the reserve matrix and recorded in the amount corresponding to the credit losses expected to occur over the life of the financial asset. Expected credit losses are estimated based on information about past events. The model also takes into account forecasts of future economic conditions available at the reporting date.

In the financial statements of 2022 and 2021, no expected credit losses have been recorded for trade receivables due to good credit rating and outstanding receivables from customers.

Receivables are recognised as credit losses when there is objective evidence that the Group will not be able to collect all amounts. Any impairment is recognised in the income statement as operating expenses. When a receivable is deemed irrecoverable, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against operating expenses in the income statement.

Classified in the Financial assets recognised at fair value through profit or loss category are financial assets that are acquired to be held for trading purposes or classified at the time of initial recognition to be measured at fair value through profit or loss.

Financial assets are derecognised when the Group's contractual entitlement to cash flows has lapsed or been transferred to another party or when the Group has transferred significant ownership risks and revenues outside the Group.

Cash and cash equivalents

The Group's cash and cash equivalents consist of cash at bank and cash in hand.

Financial liabilities

Financial liabilities are classified into the following categories:

- Recognised at amortised cost
- Recognised at fair value through profit or loss.

Financial liabilities are recognised at fair value at the time of initial recognition and, in the case of a financial liability other than that recorded at fair value through profit or loss, transaction costs directly attributable to the item will be added to or deducted from it.

Financial liabilities posted at amortised cost are measured at amortised cost under the effective interest rate method. The difference between the amount received and the recoverable amount is recorded in the income statement under the effective interest rate method over the loan period. Financial liabilities are classified as short-term unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the reporting period. A financial liability is derecognised when the Group either pays the debt to the lender or has been legally exempted from the principal obligation relating to the liability as the result of a judicial process or by the lender. Interest-bearing liabilities are liabilities that either include a contractual interest component, or are discounted to reflect the fair value of the liability.

The interest-bearing loans, including lease liabilities, trade payables and other non-interest bearing liabilities, included in the Group's financial liabilities are classified as liabilities measured at amortised cost.

The Group's financial liabilities recognised at fair value through profit or loss consist of derivative instruments.

A financial liability is derecognised when the Group either pays the debt to the lender or has been legally exempted from the principal obligation relating to the liability as the result of a judicial process or by the lender. A financial liability is derecognised if the terms of the liability are changed and the change leads to a significant change in future cash flows. The new liability is recognised at fair value. Where changes occur in the amount or timing of the loan's expected cash flow, the carrying amount of the loan is adjusted to reflect actual and expected cash flows and the resulting income or expense is recognised in the income statement.

Derivatives and hedge accounting

Derivatives

The Group's subsidiary uses foreign exchange and commodity derivatives to hedge the Group's exposure to risks arising from balance sheet item and foreign currency purchase and sales contracts. The derivatives used by Terrafame were acquired for hedging purposes, and hedge accounting has been applied to them. All derivatives are recognised initially at fair value. Unrealised change in the value of derivatives that are considered effective hedges are recognised at fair value in the balance sheet's fair value reserve as per the portfolio valuation report for the last day of the reporting period. The accounting process for gains and losses on fair value measurement is based on the purpose of use of the derivative contract.

The realised earnings-related impacts of changes in the value of effective hedging instruments that are covered by hedge accounting are presented uniformly with the hedged item. In the event of any ineffective hedging, changes in the fair value of hedging instruments are recognised in profit or loss.

Hedge accounting

The subsidiary applies hedge accounting to all hedging instruments. At the beginning of the hedging arrangement, the relationship between each hedging instrument and the hedged asset, as well as the risk management objectives, are documented by hedging instrument type. The effectiveness of the hedging relationship is assessed at the beginning of hedging and in quarterly accounts at a minimum.

If the hedging relationship no longer meets the hedge accounting criteria or the hedging instrument is sold, expires, or the related contract is terminated or realised, hedge accounting will be terminated prospectively.

Cash flow hedging

The subsidiary's hedging activities are entirely focused on cash flow hedging. The effective portion of changes in the fair values of derivatives acquired for the purpose of hedging forecasted cash flows are recognised at fair value through other comprehensive income in the fair value reserve under equity. The cumulative fair value is shown in the cash flow hedge reserve under equity. Changes in fair value are recognised in profit or loss for the same periods in which hedged cash flows affect the result. The subsidiary can use currency swaps (forward contracts and options) as hedging instruments for future cash flows denominated in a foreign currency.

When hedge accounting for a cash flow hedge is terminated, the amount accumulated in the cash flow hedge reserve is included in equity until it is transferred to profit or loss for the same financial period in which the hedged expected future cash flows affect profit or loss. If the hedged future cash flows are no longer expected to occur, the amount accumulated in the cash flow hedge reserve will be immediately transferred as a reclassification adjustment to profit or loss.

Provisions, contingent liabilities and contingent assets

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, and when it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate of the amount of the obligation can be made. If the effect of the time value of money is material, provisions are discounted at the current pre-tax interest rate that reflects, where appropriate, the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost.

Rehabilitation provision for mine closure and environmental clean-up costs

A rehabilitation provision for mine closure costs is made with respect to the estimated future costs of closure and restoration, and for environmental restoration and rehabilitation to the condition required by the environmental permits granted for mining operations.

Prevention of the threat of environmental pollution entails environmental and landscaping obligations. After mining operations have ceased, any machinery and equipment, chemicals, fuels and waste involving the risk of environmental pollution must be removed from the site. This will be carried out as part of normal mining operations. In addition, the open pit must be restored to the condition required by public safety.

The majority of the estimated restoration costs arises from the closure of waste rock dumps and primary and secondary leaching areas, the treatment and clean-up of primary and secondary leaching solution channels, the construction, covering and landscaping of gypsum ponds, the treatment of rock drainage, the fencing of open pits and the ex post supervision of the mining site.

The mine closure plan is based on the covering of areas with water- and oxygen-impermeable material, and long-term aftercare. It is assumed that environmental monitoring of the mine will continue for 30 years after closure of the mine.

The rehabilitation costs have been estimated in accordance with the cost level at the date of closing of the accounts. The rehabilitation provision of 31 December 2022 in the consolidated balance sheet was EUR 205.2 million (2021: 232.0). Due to higher interest rates and rising inflation, the provision has been discounted during the financial year 2022. Discounting decreased the provision by approximately EUR 34.2 million during the financial year, and the unwinding of the discount increased the provision by approximately EUR 7.5 million. The net change in the provision during the financial year was EUR -26.8 million.

Accounting policies requiring consideration by management and crucial factors of uncertainty associated with estimates

Estimates and assumptions regarding the future have to be made during the preparation of the financial statements, and the outcome may differ from the estimates and assumptions. Furthermore, the application of accounting policies requires consideration.

The estimates made when preparing the financial statements are based on the management's best knowledge at the balance sheet date. The estimates are based on prior experience, as well as future assumptions that are considered to be the most likely on the balance sheet date with regard to issues such as the expected development of the Group's economic operating environment in terms of sales and cost levels. The Group monitors changes on a regular basis using both internal and external sources of information, and any changes to these estimates and assumptions are entered in the accounts for the period in which the estimate or assumption is adjusted and for all periods thereafter.

Associated companies and the equity method of accounting

The management of Finnish Minerals Group has used its judgment and continued to apply the equity method of accounting to Keliber in its financial statements of 2022 even though the Group's holding in the company decreased to less than 20 percent. The Group considers that it still has significant influence based on having a representative on the company's Board of Directors.

Tangible and intangible assets

The management of Finnish Minerals Group has used its judgment in the recognition of tangible and intangible assets in the balance sheet and in determining their useful lives, which has an impact on the consolidated balance sheet and the amount of depreciation to be recorded. Similarly, management is required to use judgment in determining the useful lives of intangible assets identified in accordance with IFRS 3, and in determining the amortisation period. This affects the financial result for the period through depreciation and changes in deferred taxes.

For tangible fixed assets, comparisons have been made of the market prices of similar assets, and the depreciation of the acquired assets due to aging, wear and other similar factors has been estimated. The fair value measurement of intangible fixed assets is based on estimates of cash flows associated to fixed assets. Management considers the assumptions and estimates to be sufficiently accurate to provide a basis for estimating the fair value. The Group also reviews any indication of impairment loss of tangible and intangible fixed assets at each date of the financial statements.

Valuation of mineral resources and ore reserves

In the Group's mining operations, estimates have to be applied in recognising mineral resources acquired in business combinations as assets on the consolidated balance sheet. In the recognition and measurement of mineral resources and ore reserves, the Group utilises available third-party analyses of the quantities, mineral content, estimated production costs and recovery potential of the resource. The reliability of the evaluation and calculation basis for mineral resources and ore reserves is also a key consideration. In the mining and minerals business, mineral resources and ore reserves are commonly classified into categories such as 'proven' and 'probable' ore reserves, and 'measured' and 'indicated' mineral resources.

Rehabilitation provisions

The Group assesses the rehabilitation liabilities associated with its mines and production facilities annually. The amount of provision reflects the management's best estimate of the rehabilitation costs. In determining the amount of provision, the Group has listed matters that it will rehabilitate and/or restore to the condition required by the licence terms in accordance with the nature of its operations and the official permit conditions. The Group estimates that rehabilitation measures will be taken in connection with its mining operations or, at the latest, in connection with mine closure. These measures are estimated to take a few years after the mine closure.

At the date of the financial statements, the Group has estimated the extent and unit cost of the various matters requiring rehabilitation and calculated the rehabilitation provision accordingly. In estimating the extent and unit cost of the various matters, the Group has used its best in-house experts in the matters in question.

In determining the fair value of the provisions, assumptions and estimates are made in relation to discount rates, the expected cost to rehabilitate the area and remove or cover the contaminated soil from the site, the expected timing of those costs, and whether the obligations stem from past activity. These uncertainties may cause the actual rehabilitation costs to differ from the provision which has been made.

Definition of value of work in progress

The value of inventories determined in accordance with the principle of net realisation value includes discretionary factors related to, for instance, the measurement of metal volume in work in progress, metals recovery percentages, production costs, the production time necessary to complete sales, and sales prices.

Leases

To process leases in accordance with IFRS 16, estimates and assumptions made by management must be used, inter alia, when assessing factors that have an impact on defining the lease term as well as leases that are valid until further notice. In addition, management's assumptions are used when assessing leases with termination and continuation options. Management's estimates are also required to determine which discount rate to use. Management's estimates have an impact on the amount of right-of-use assets and lease liabilities in the balance sheet, as well as on the recording of income and expenses in the income statement.

Deferred taxes

The recognition of deferred tax assets is based on management's forecasts and estimates of whether the company will generate sufficient taxable income in the future. The estimates used in the calculation are based on the latest management forecasts at the reporting date and assumptions consistent with the assumptions used elsewhere in the financial statements. The assessment requires consideration of, for example, future taxable income, the tax planning strategies available, and other factors that have a positive or negative impact. The amount of deferred tax assets on the balance sheet could be lower if the above estimates were to change or if the legislation in force would limit the possibility to take advantage of the estimated tax benefit.

New standards, amendments and interpretations

The Group has been applying the amendment to IAS 16 *Property, Plant and Equipment – Proceeds Before Intended Use* early as of 1 January 2021, to recognise revenue from the sale of products arising from the use of capital work in progress and the related manufacturing costs through profit or loss.

The new standards, amendments or interpretations adopted on 1 January 2022 have had no impact on the consolidated financial statements of Finnish Minerals Group.

New standards, amendments or interpretations to be adopted on 1 January 2023 or later, published by the date of closing of the accounts, are not expected to have a material impact on the consolidated financial statements of Finnish Minerals Group.

1 NOTES

1.1 Net sales

	2022	2021
Breakdown by sector		
Metal intermediates business	377,345	351,322
Battery chemicals business	207,069	27,126
Other service	0	10
Total	**584,414**	**378,458**
Geographical breakdown		
Europe	313,985	351,342
Asia	270,429	27,101
United States	0	15
Total	**584,414**	**378,458**

1.2 Employee benefit expenses and total depreciation

	2022	2021
Wages and salaries	47,598	47,029
Pension costs	8,545	8,015
Other social security expenses	2,015	1,973
Total	**58,158**	**57,016**
The Group's average number of employees during the financial period	876	935
The Group's number of employees at the end of the financial period	800	909

Total depreciation, amortisation and impairment charges	**2022**	**2021**
Intangible rights	139	290
Other intangible assets	356	304
	495	594
Tangible assets		
Buildings	6,498	4,887
Machinery and equipment	35,125	26,320
Right-of-use assets, machinery and equipment	3,316	3,043
Other tangible assets	14,427	14,555
	59,366	48,805
Total	**59,861**	**49,400**

1.3 Cost of goods sold

	2022	2021
Materials and services		
Raw materials and consumables		
Purchases during the financial year	212,988	129,183
Change in inventory	5,699	-1,296
	207,289	127,887
External services	102,144	75,495
Total	**309,433**	**203,382**
Change in inventory, products		
Change in inventory		
Change in inventory, semifinished products	-37,754	-13,893
Change in inventory, finished products	-11,600	1,821
Total	**-49,354**	**-12,072**
Personnel expenses		
Wages and salaries	38,070	38,755
Pension costs	7,014	6,596
Other social security expenses	1,123	1,017
Total	**46,207**	**46,368**
Depreciation, amortisation and impairment charges		
Intangible rights	23	181
Tangible assets		
Buildings and structures	6,398	4,786
Machinery and equipment	35,049	26,247
Right-of-use assets, machinery and equipment	3,261	2,900
Other tangible assets	13,024	11,929
Total	**57,755**	**46,044**
Other costs of goods sold	**89,562**	**85,250**
Cost of goods sold total	**453,603**	**368,971**

1.4 Other operating income

	2022	2021
Revaluation of biological assets	-366	128
Insurance claims	0	252
Grants received	4,432	325
Proceeds from disposal of tangible and intangible assets	0	76
Other fees and compensation, including sales of scrap metal and proceeds from tree felling	1,653	1,287
Total other operating income	**5,719**	**2,068**

1.5 Sales and marketing expenses

	2022	2021
Personnel expenses		
Wages and salaries	849	1,148
Pension costs	153	194
Other social security expenses	31	33
Total	**1,033**	**1,374**
Depreciation, amortisation and impairment charges		
Depreciation and amortisation charges	24	9
Right-of-use assets, depreciation	0	106
Total	**24**	**116**
Other expenses		
Sales and marketing misc. charges	1,350	1,540
Total	**1,350**	**1,540**
Total sales and marketing expenses	**2,406**	**3,030**

1.6 Administrative expenses

	2022	2021
Personnel expenses		
Wages and salaries	6,447	5,567
Pension costs	966	924
Other social security expenses	353	346
Total	**7,766**	**6,836**
Depreciation, amortisation and impairment charges		
Depreciation and amortisation charges	305	275
Right-of-use assets, depreciation	0	37
Total	**305**	**312**
Other expenses		
Other administrative expenses	17,546	16,297
Total	**17,546**	**16,297**
Auditors' fees		
Auditing	166	141
Certificates and reports	2	5
Tax advisory services	76	18
Other services	78	85
	322	**249**
Total administrative expenses	**25,939**	**23,694**

1.7 Other operating expenses

	2022	2021
Research and development costs		
Total research and development costs recognised as an expense	**2,825**	**1,121**
Personnel expenses		
Wages and salaries	2,187	1,583
Pension costs	386	232
Other social security expenses	75	-150
Total	**2,647**	**1,665**
Depreciation, amortisation and impairment charges		
Depreciation and amortisation charges	1,748	2,816
Total	**1,748**	**2,816**
Other expenses		
Other operating expenses	13,663	8,246
Total	**13,663**	**8,246**
Total other operating expenses	**20,883**	**13,847**

1.8 Finance income and cost

	2022	2021
Finance income		
Interest income from other deposits	677	27
Foreign exchange gains	3,260	1,350
Other finance income	1	46
Total finance income	**3,938**	**1,423**
Change in fair value of financial assets carried at fair value		
Change in fair value, other investments	0	66
Total impairment charges	**0**	**66**
Finance expenses		
Other interest expenses	-16,055	-456
Foreign exchange losses	-14,990	-15,691
Other finance expenses	-11,313	-5,779
Share of profit from associated company and joint venture	-6,859	-1,502
Total finance expenses	**-35,499**	**-23,428**
Total finance income and cost	**-31,561**	**-21,939**

Of the unrealised foreign exchange gains included in finance income, EUR 215 thousand (2021: 1,330) consists of the valuation of foreign exchange -denominated loans using the exchange rate at the balance sheet date. Of the unrealised foreign exchange losses included in finance expenses, EUR 10,548 thousand (2021: 15,627) consists of the valuation of foreign exchange – denominated loans using the exchange rate at the balance sheet date.

1.9 Income taxes

	2022	2021
Income taxes in the income statement		
Tax based on taxable income for the financial period	0	0
Taxes from previous periods	0	0
Tax based on taxable income for the period	**0**	**0**
Deferred taxes	23,321	-241
Income tax expense	**23,321**	**-241**

The Finnish corporate tax rate in the financial year 2022
and the reference year was 20.0%

Deferred tax on the balance sheet	**36,333**	**10,297**

1.10 Earnings per share

The basic earnings per share are calculated by dividing the profit attributable to the parent company's shareholders by the weighted average number of ordinary shares in issue during the financial period.

	2022	2021
Profit/loss for the period attributable to owners of the parent	53,620	-36,222
Weighted average number of shares during the period	588,408	583,805
Basic earnings per share, EUR/share	91.13	-62.05
Diluted earnings per share, EUR/share	91.13	-62.05

1.11 Business acquisitions and divestitures

The Group made no business acquisitions in the financial year 2022 or 2021.

1.12 Intangible assets

	Development costs	Intangible rights	Other intangible assets	Construction in progress	Total
Acquisition cost 1 Jan 2021	1,120	2,913	320	0	4,354
Increase	0	26	0	4	30
Capitalised during the period	1,832	0	1,596	-4	3,424
Acquisition cost 31 Dec 2021	**2,952**	**2,939**	**1,916**	**0**	**7,807**
Accumulated depreciation and write-downs 1 Jan 2021	-112	-1,954	-130	0	-2,195
Depreciation for the year	-243	-290	-61	0	-594
Accumulated depreciation 31 Dec 2021	**-356**	**-2,243**	**-191**	**0**	**-2,790**
Carrying amount 31 Dec 2021	**2,596**	**696**	**1,725**	**0**	**5,017**
Acquisition cost 1 Jan 2022	2,952	2,939	1,916	0	7,807
Increase				40	40
Capitalised during the period	777	0	3,810	0	4,587
Acquisition cost 31 Dec 2022	**3,729**	**2,939**	**5,726**	**40**	**12,434**
Accumulated depreciation and write-downs 1 Jan 2021	-356	-2,243	-191	0	-2,790
Depreciation for the year	-320	-139	-36	0	-495
Accumulated depreciation 31 Dec 2022	**-675**	**-2,382**	**-227**	**0**	**-3,285**
Carrying amount 31 Dec 2022	**3,053**	**557**	**5,499**	**40**	**9,150**

1.13 Property, plant and equipment

	31 Dec 2022	31 Dec 2021
Property, plant and equipment	718,385	725,084
Right-of-use assets	10,505	13,812
Carrying amount 31 Dec	**728,890**	**738,896**

	Land	Buildings	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost 1 Jan 2021	2,708	65,221	176,320	220,033	256,264	720,547
Increase	587	0	10,685	72,947	103,704	187,923
Capitalised during the period	0	69,499	198,838	39,037	-307,374	0
Decrease	0	0	-358	0	0	-358
Acquisition cost 31 Dec 2021	**3,295**	**134,720**	**385,486**	**332,017**	**52,954**	**908,113**
Accumulated depreciation and write-downs 1 Jan 2021	0	-19,745	-82,034	-35,843	0	-137,621
Accumulated depreciation on decreases and transfers	0	0	355	0	0	355
Depreciation for the year	0	-4,887	-26,320	-14,555	0	-45,763
Accumulated depreciation 31 Dec 2021	**0**	**-24,632**	**-107,999**	**-50,398**	**0**	**-183,029**
Carrying amount 31 Dec 2021	**3,295**	**110,088**	**277,487**	**281,619**	**52,594**	**725,084**
Acquisition cost 1 Jan 2022	3,295	134,720	385,486	332,017	52,954	908,113
Increase	227	484	10,585	-34,244	72,300	49,352
Capitalised during the period	0	70	16,599	28,431	-45,101	0
Acquisition cost 31 Dec 2022	**3,521**	**135,275**	**412,670**	**326,204**	**79,794**	**957,464**
Accumulated depreciation and write-downs 1 Jan 2022	0	-24,632	-107,999	-50,398	0	-183,029
Depreciation for the year	0	-6,498	-35,125	-14,427	0	-56,050
Accumulated depreciation 31 Dec 2022	**0**	**-31,130**	**-143,124**	**-64,825**	**0**	**-239,079**
Carrying amount 31 Dec 2022	**3,521**	**104,145**	**269,546**	**261,380**	**79,794**	**718,386**

Other tangible assets include the general infrastructure, roads, railways, ponds and dam areas in the mining site.

Right-of-use assets	**Machinery and equipment**	**Total**
Acquisition cost 1 Jan 2021	18,472	18,472
Increase	2,851	2,851
Acquisition cost 31 Dec 2020	**21,323**	**21,323**
Accumulated depreciation and write-downs 1 Jan 2021	-4,468	-4,468
Depreciation for the year	-3,043	-3,043
Accumulated depreciation 31 Dec 2021	**-7,511**	**-7,511**
Carrying amount 31 Dec 2021	**13,812**	**13,812**
Acquisition cost 1 Jan 2022	21,323	21,323
Increase	8	8
Acquisition cost 31 Dec 2022	**21,332**	**21,332**
Accumulated depreciation and write-downs 1 Jan 2022	-7,511	-7,511
Depreciation for the year	-3,316	-3,316
Accumulated depreciation 31 Dec 2022	**10,827**	**10,827**
Carrying amount 31 Dec 2022	**10,505**	**10,505**

The right-of-use assets leased by Terrafame consist mainly of production-related machinery and equipment, such as heavy-duty dumper trucks, excavators, lorries and service vehicles. The length of the leases is typically approximately five years, after which the company and the lessor can decide on the use the lease's continuation option, if one is included in the agreement. As at 31 December 2022, no continuation options were included in the lease liability, as Terrafame does not yet have reasonable assurance that the continuation options will be exercised.

The maturity analysis of the lease liabilities is shown in Note 1.23 'Financial risk management'.

IFRS 16 Leases – Notes to the standard Items recognised through profit or loss	**2022**	**2021**
Lease expenses of low value assets	63	42
Lease expenses of short-term leases	5,798	4,228
Depreciation of fixed assets (machinery and equipment)	3,316	3,043
Interest expenses on leases (included in item 'Interest expenses')	308	416

The lease expenses itemized above are mainly included in the income statement item 'Other operating expenses'.

Items recognised in the cash flow statement		
Total cash outflow from leases	5,552	5,132

1.14 Biological assets

The land owned by Terrafame Oy includes biological assets (forest). The forests are managed in accordance with a forest management plan. Approximately one-third of the mining concession area has been taken into production use. As the mining operations continue, more areas will be taken into use and, at the same time, forests be cleared.

Biological assets have been measured at fair value based on a third-party estimate, less sales-related costs. Growing stock and seeding stand have been measured at fair value, separately from land. Seeding stands have no value in timber trade since the trees will not be saleable until after 25–30 years. The value of seeding stands has been taken into account in the value of forests by discounting them at 31 December 2022 (time 25 years, interest rate 5%). The fair value of biological assets is a level 3 measure in terms of the fair value measurement hierarchy.

Biological assets	**31 Dec 2022**	**31 Dec 2021**
Value of growing stock	7,599	7,978
Value of seeding stands	113	100
	7,712	8,078
Total growing stock, m^3	330,633	361,863
Total seeding stands, ha	339.80	302.80

Balance at 1 Jan 2021	**7,950**
Gains and losses on fair value measurement	128
Balance at 31 Dec 2021	**8,078**
Balance at 1 Jan 2022	**8,078**
Gains and losses on fair value measurement	-366
Balance at 31 Dec 2022	**7,712**

1.15 Investments in associates

Non-current	**2022**	**2021**
Investments in associated companies	27,364	16,500
Share of profit from associated companies	-4,997	-3,701
Balance at 31 Dec	**22,367**	**12,799**

	Holdings in associated companies
Acquisition cost 1 Jan 2021	20,857
Increase	3,798
Acquisition cost 31 Dec 2021	24,655
Accumulated impairment losses 1 Jan 2021	-8,155
Accumulated impairment losses 31 Dec 2021	-8,155
Carrying amount 31 Dec 2021	**16,500**
Acquisition cost 1 Jan 2022	24,655
Increase	2,709
Acquisition cost 31 Dec 2022	27,364
Accumulated impairment losses 1 Jan 2022	-8,155
Reversal of an impairment loss	8,155
Accumulated impairment losses 31 Dec 2022	0
Carrying amount 31 Dec 2022	**27,364**

	31 Dec 2021 Company holdings	Book-entry	Number of shares	Carrying amount
Keliber Oy, Kaustinen, Finland	20,4%	Class B shares	479,868	16,500

	31 Dec 2022 Company holdings	Book-entry	Number of shares	Carrying amount
Keliber Oy, Kaustinen, Finland	13,9%	Class B shares	479,868	24,655
CNGR Finland Oy, Hamina, Finland	40.0%		39,800	2,109
Adven-FMG Sulphate Holding Oy, Vantaa, Finland	49.0%		4,900	600
Total				**27,364**

In the financial year 2022, the Group's share of the associated company's profit for the financial year was EUR -1,295 thousand. During the financial year, the shareholding in Keliber Oy decreased to 13.9 percent as a result of the share issue carried out by the associated company. The impairment loss of EUR 8,155 thousand recognised on Keliber's shares during previous financial years was reversed. Keliber remains an associated company of the Group.

1.16 Inventories

	2022	2021
Raw materials and consumables	31,227	25,527
Work in progress	241,797	204,043
Finished products	15,884	4,284
Total	**288,908**	**233,854**

The metal intermediates inventory on 31 December 2022 was measured at cost, EUR 3.7 million, because the net realizable value was higher than the cost-based value. Since 2017, work in progress for metal intermediates has been measured on a cost basis whenever the cost-based value is lower than the net realizable value. The value of work in progress in metal intermediates business measured on a cost basis on 31 December 2022 was EUR 236.8 million, and the value of work in progress in battery chemicals production measured at net realisable value was EUR 5.0 million. The inventory of finished sulphated products of the battery chemicals business on 31 December 2022 has been measured at net realizable value, EUR 12.2 million, because the unit costs in the rampup phase of production are higher than the net realizable value.

The value of raw materials and consumables on 31 December 2022 includes a provision of EUR 8.9 million for slow-moving inventory, which reduces the value of inventory. The corresponding provision on 31 December 2021 amounted to EUR 7.6 million.

1.17 Trade and other receivables

Current	**2022**	**2021**
Trade receivables	66,701	24,163
Prepaid expenses and accrued income	1,628	1,104
Derivative assets	13,847	181
Collateral	62	211
Other receivables	328	188
Total	**82,567**	**25,846**

Aging of trade receivables and items recognised as credit loss	**2022**	**2021**
Undue	61,317	14,614
Overdue		
Under 30 days	5,173	9,548
30–60 days	165	0
61–90 days	-17	0
Over 90 days	63	0
Total	**66,701**	**24,163**
Recognised impairment losses	0	0

Expected credit losses have not been recorded in the Group's financial statements of 31 December 2022 as, based on the good credit rating of customers and the long-term payment method of customer relationships, the company does not consider that there are sufficient grounds to prepare for future impairment losses.

Current receivables by currency, EUR	**2022**	**2021**
USD	78,470	23,795
EUR	4,096	2,051
AUD	0	0
Total	**82,567**	**25,846**

Other receivables consist of the following items:		
Loan receivable	0	2
Tax accounts receivables	328	186
Total	**328**	**188**

1.18 Cash and cash equivalents

	2022	2021
Cash in hand and at banks	48,330	78,353
Total	**48,330**	**78,353**

1.19 Notes on shareholders' equity

The parent company's share capital entered in the trade register on 31 December 2022 was EUR 2,258 thousand, divided into 588,408 shares of the same value. The nominal value of the share has not been specified. There were no changes in share capital during the financial year 2022 or 2021.

Subscribed capital	**2022** Number of shares	Subscribed capital	**2021** Number of shares	Subscribed capital
1.1.	558,408	2,258	558,408	2,258
Issued shares	0	0	30,000	0
Subscribed capital 31 Dec	**588,408**	**2,258**	**588,408**	**2,258**

Invested unrestricted equity fund	**2022** Number of shares	Subscribed capital	**2021** Number of shares	Subscribed capital
1.1.	558,408	606,151	558,408	556,151
Issued shares	30,000	0	30,000	50,000
Invested unrestricted equity fund 31 Dec	**588,408**	**606,151**	**588,408**	**606,151**

Decisions made and authorisations given by the General Meeting of Shareholders of the subsidiary, Terrafame Oy

The shareholders of Terrafame Oy have, on 27 August 2020, authorised the company's Board of Directors to decide on the issuance of a maximum of 757,867 new shares in the company in deviation from the shareholders' pre-emptive rights. The authorisation for 716,867 new shares in the company remains valid until 31 March 2023, and the authorisation for 41,000 new shares in the company remains valid until 24 April 2024. In addition, the shareholders have authorised the Board of Directors to decide on the issuance of a maximum of 81,000 new shares in the company in a directed share issue to the company's parent on the grounds of maintaining control over the company. The authorisation is valid until further notice.

Options and other special rights

The option rights entitling to Terrafame Oy's shares can be transferred to the permitted transferees. Both the direct and indirect pledging of options are prohibited. The subscription prices agreed for the option rights were 10% higher than the subscription price at the time of the arrangement, and the subscription rights may be exercised in several tranches, in part or in full. The option holder does not have rights to any dividends or assets distributed from the company's reserves for invested unrestricted equity. For tranche 7, the subscription period is divided for 47% of the subscription rights (7_1) to be exercised between 27 August 2020 and 31 December 2023, and for 53% of the subscription rights (7_2) to be exercised between 27 August 2020 and 24 April 2024. Correspondingly, for tranche 8, 84% of the subscription rights (8_1) are to be exercised between 27 August 2020 and 31 December 2023, and 16% of the rights (8_2) between 27 August 2020 and 30 June 2024. The subscription period for tranche 9 is from 27 October 2020 to 30 June 2024, while the subscription period for tranches 10–13 started immediately and ends on 30 June 2024.

Options and other special rights	Maximum number of issued shares	Shares issued	Shares outstanding
(pcs)	**31 Dec 2022**	**31 Dec 2022**	**31 Dec 2022**
Tranche 7	880,915		880,915
Tranche 8	582,033		582,033
Tranche 9	21,518		21,518
Tranche 10	21,518		21,518
Tranche 11	21,518		21,518
Tranche 12	21,518		21,518
Tranche 13	21,518		21,518
At end of year	**1,570,538**	**0**	**1,570,538**

Options and other special rights	Maximum number of issued shares	Shares issued	Shares outstanding
(pcs)	**31 Dec 2021**	**31 Dec 2021**	**31 Dec 2021**
Tranche 7	1,034,008	153,093	880,915
Tranche 8	582,033		582,033
Tranche 9	21,518		21,518
Tranche 10	21,518		21,518
Tranche 11	21,518		21,518
Tranche 12	21,518		21,518
Tranche 13	21,518		21,518
At end of year	**1,723,631**	**153,093**	**1,570,538**

Share of non-controlling interests

Non-controlling interests accounted for EUR 173.6 million of the Group's equity in the financial year 2022 (2021: 151.2 million). This holding of the Group consists of financing arrangements made during financial years 2017–2022, and it concerns the Group's subsidiary, Terrafame Oy, for which the non-controlling interest was approximately 33.0 percent on the balance sheet date (2021: 32.9).

1.20 Notes to hedging derivatives

	31 Dec 2022			31 Dec 2021			2022	2020
	Positive fair values	Negative fair values	Net fair values	Positive fair values	Negative fair values	Net fair values	Nominal amounts in USD	Nominal amounts in USD
Currency and interest rate derivatives								
Foreign exchange forwards	8,488	1,891	6,598	121	7,533	-7,412	318,000	234,000
Metal derivatives							Tonnes	Tonnes
Nickel forward contracts	0	65,797	-65,797	0	31,663	-31,663	14,262	12,800
Zinc forward contracts	2,590	196	2,393	41	6,911	-6,870	18,000	19,200
Derivatives total	**11,078**	**67,884**	**-56,806**	**162**	**46,107**	**-45,945**		
Long-term derivatives	239	14,035	-13,796	0	149	-149		
Short-term derivatives	10,839	53,849	-43,010	162	45,958	-45,796		

	31 Dec 2022	**31 Dec 2021**
Gross assets on the balance sheet	13,847	181
Gross liabilities on the balance sheet	84,855	57,613

The fair value calculation of hedges is based on market rates and quotations on the balance sheet date in accordance with the hedging portfolio. Counterparties to derivative transactions have been approved in accordance with the company's hedging policy. Intercompany receivables and liabilities are connected on a transaction level with each counterparty and accounted for on a daily level by transaction.

The importance of hedging instruments to the company's financial position and projected profitability for the next 12 months was high on 31 December 2022. The company had set up a cash flow hedge against a weakening US dollar with a hedging rate of approximately 50 percent. Similarly, a hedging rate of approximately 50 percent was also applied to set up a hedge against falling nickel prices for the company's projected nickel deliveries for the following year utilizing derivatives and fixed-term sales agreements. For planned zinc deliveries company has set up a hedge with a hedging rate of approximately 23 percent. In addition, in line with its hedging policy, the company had set up hedges for almost all of its nickel and zinc deliveries, which had been completed and reported under sales already earlier.

As a result, the change in market prices after the closing of the accounts has hardly no effect on the deliveries reported as sales for the financial year 2022.

1.21 Deferred tax assets and liabilities

Deferred taxes

On the balance sheet	**31 Dec 2022**	**31 Dec 2021**
Derivatives		
Deferred tax asset	14,202	11,486
Deferred tax liability	0	0
Confirmed losses		
Deferred tax asset	23,455	0
Biological assets		
Deferred tax liability	-520	-593
Leases		
Deferred tax liability	-803	-596
Balance at 31 Dec	**36,333**	**10,297**
Unrecognised deferred tax assets		
Confirmed and carried-forward loss for tax purposes		
Deferred tax asset	6,535	39,946
Rehabilitation provision		
Deferred tax asset	41,050	46,405
Deferred tax liability	-7,281	-14,075
Deferred depreciation		
Deferred tax asset	9,044	9,044
Balance at 31 Dec	**49,348**	**81,319**

The Finnish corporate tax rate in the financial year 2022 and the reference year was 20.0%.

Deferred tax assets are recognised up to the amount for which there is likely to be taxable income in the future, and against which they can be used. The above table shows the temporary differences, tax losses and depreciation not deductible for tax purposes for which deferred tax assets or tax liabilities have not been recognised due to uncertainty related to their realisation. Material unrecognised deferred taxes relate to adjustments to Terrafame Oy's assets on the basis of IFRS accounting policies in connection with the preparation of consolidated financial statements. A significant increase was achieved in Terrafame Oy's business development during the financial year 2022, and this has stabilised the level of annual taxable income and its outlook for the coming years with the ramp-up of the battery chemicals plant. For this reason, there is convincing evidence that sufficient taxable income will be available against which the tax losses can be utilized and therefore a deferred tax asset has been recognized in 2022 for all Terrafame's confirmed losses.

On 31 December 2022, the Group companies had unrecognised deferred tax assets of approximately EUR 15.6 million, which consisted of the confirmed losses for tax years 2015–2021 (EUR 5.5 million in tax assets), losses estimated to be confirmed for tax year 2022 (EUR 1.0 million in tax assets) and deferred depreciation (EUR 9.0 million).

No deferred tax assets have been recognised with respect to the annually updated rehabilitation provision recorded in connection with the acquisition of the mining business and the related IFRS adjustments. At the balance sheet date, the deferred tax asset from the provision is approximately EUR 41 million and the deferred tax liability from IFRS adjustments is approximately EUR 7.3 million.

1.22 Contingent liabilities and other liabilities

	31 Dec 2022	**31 Dec 2021**
Fixed assets serving as collateral for installment credit	**76**	**150**
Installment credit		
Within one year	126	115
Later than 1 year and no later than 5 years	0	125
Total	**126**	**240**
Other contractual exposures		
No later than 1 year	8,178	8,053
Later than 1 year and no later than 5 years	1,764	3,684
Total	**9,942**	**11,737**
Bank deposits	**0**	**150**
Total	**10,069**	**12,127**

Securities complying with environmental and mining permits	**Type of security**	**31 Dec 2022** Amount of security	**31 Dec 2021** Amount of security
Beneficiary			
Kainuu Centre of Economic Development, Transport and the Environment; no. 196	Credit insurance	153,245	133,245
Security in accordance with permit decision no. 52/2013/1	Bank guarantee	1,500	1,500
Security in accordance with permit decision no. 43/2014/2	Bank guarantee	6	6
Security in accordance with permit decision no. 43/2015/1	Bank guarantee	100	100
Security in accordance with permit decision no. 3/2017/1	Bank guarantee	50	50
Security in accordance with permit decision no. 76/2017/1	Bank guarantee	100	100
Security in accordance with permit decision no. 133/2010	Bank guarantee	10	10
Security in accordance with permit decision no. 5/2021	Bank guarantee	200	200
Security in accordance with permit decision no. 5/2021	Bank guarantee	20	20
Security in accordance with permit decision no. 87/2022		17	0
Security in accordance with permit decision no. 87/2022	Bank guarantee	10	0
Decision of the Finnish Safety and Chemicals Agency, 30 June 2014, Mining Register registration number: 2819	Bank guarantee	100	100
Decision of the Finnish Safety and Chemicals Agency, 30 June 2014, Mining Register registration number: 2819	Bank guarantee	35	35
Decision of the Finnish Safety and Chemicals Agency, 30 June 2014, Mining Register registration number: 2819	Bank guarantee	50	50
Total		**155,443**	**135,416**
Other collateral	Bank guarantee	1,895	1,545
Real estate investments' VAT refund liability		**13,797**	**15,894**
Business mortgages		**320,000**	**320,000**
Real estate mortgage		**1,200,079**	**1,200,079**
Mining certificate, Mining Register registration number 2819, mining concession	Pledge	**Yes**	**Yes**

Business and real estate mortgages and the pledge on the mining certificate are collateral for Terrafame's long-term financing agreements.

1.23 Financial risk management

The nature of business exposes Finnish Minerals Group to foreign exchange, commodity price, credit and liquidity risks. The goal of the Group's financial risk management is to minimise the negative effects of changes in financial and commodity markets on its result and cash flow.

As the Group's main operating subsidiary, Terrafame is exposed to all the risks listed above. Terrafame's commercial and finance department identifies and assesses risks, acquires the instruments needed to hedge against risks, and reports on risks and any changes therein to the company's CEO and Board of Directors. Hedging transactions are carried out in accordance with the principles approved by the Board of Directors. If necessary, foreign-exchange forward transactions and options, foreign currency loans, interest rate swaps and nickel and zinc forwards, and options are used in financial risk management. The financial structure of subsidiaries is planned, evaluated and controlled whilst taking financial risk management into account.

The hedging policy adopted by Terrafame's Board of Directors defines the objectives of hedging, permitted hedging instruments, hedging levels, organisational responsibilities and reporting necessary for the management and control of financial risks. The accounting policies to be applied are also outlined in the hedging policy. The company's Board of Directors approves all counterparties to agreements relating to financial risk management. According to the hedging policy, derivative instruments can only be used to manage business risks. The use of derivative instruments to hedge against non-business risks (for trading purposes or speculative use) is prohibited.

The company's financial management submit reports on risk management, hedging position and outcomes to the CEO and Board of Directors on a monthly basis.

Currency risks

Since Finnish Minerals Group operates in the euro area and sales are made in US dollars, the company's business operations involve currency risks.

In 2022, the Group had USD-denominated sales worth USD 603.6 million, and the USD-denominated foreign-exchange forward transactions due during the financial year totalled USD 333 million. The hedge ratio was therefore set at 55.2 percent. As a result, a 10 percent change in the value of EUR/USD would have only affected the Group's net sales by 4.1 percent.

A significant portion of Terrafame's long-term loans from financial institutions are USD-denominated. In accordance with the hedging policy, the risk of revaluing loans related to exchange rate changes is not subject to hedging measures.

Interest rate risk

The Group's interest rate risk arises from loans from financial institutions for which the reference rate is a variable interest rate. At the date of closing the accounts, the consolidated balance sheet showed EUR 241.9 million (2021: 227.4) in interest-bearing liabilities. On the same date, the repayment period of interest-bearing liabilities was approximately 1.1 years. This calculation includes all of the liabilities for which a repayment period can be defined. The company has not taken any special measures to hedge against interest rate risks during the financial year.

Reasonably possible changes in the interest rate level would not have had a significant impact on the Group's result and shareholders' equity. An increase of one percentage point in the reference rate would have increased the interest costs of finance loans by approximately EUR 1.9 million. In accordance with the hedging policy, the risk of revaluation of loans is not subject to hedging measures.

Credit risk

The internal guidelines of Finnish Minerals Group define the principles and responsibilities of credit control. Once a new customer agreement has been signed, the Group estimates its expected annual volume and share of net sales, as well as the customer's creditworthiness.

No credit losses have been recognised for the financial year 2022 or 2021. Credit insurance has not been applied to secure trade receivables.

The aging schedule for trade receivables is presented in Note 1.17.

Capital management

The aim of the Group's capital management is to support business through an optimal capital structure and increase shareholder value by aiming at the highest possible return. An optimal capital structure also ensures smaller capital costs.

Developments in capital structure are monitored through the equity-to-assets ratio. The equity ratio on 31 December 2022 was 45.7 percent (31 December 2021: 44.0).

Liquidity risk

Finnish Minerals Group continuously assesses and monitors the amount of financing required for business operations, so that the Group has sufficient liquid funds to finance its operations.

Terrafame Oy's existing financing agreements include mechanisms for ensuring sufficient liquidity, such as debt/equity swaps to replace maturing debt with equity.

The maturity distribution based on debt contracts is as follows:

31 Dec 2022	Carrying amount	Cash flow	0–6 mths	6 mths–1 yr	1–2 yrs	More than 2 yrs
Interest-bearing liabilities	234,942	261,322	43,423	120,001	75,955	21,944
Accounts payable	105,717	105,717	105,717	0	0	0
Lease liabilities	6,921	7,050	2,990	2,991	577	492
Derivative liabilities	84,855	84,855	35,891	31,420	17,544	0
Total	**432,435**	**458,945**	**188,021**	**154,412**	**94,076**	**22,435**

31 Dec 2021	Carrying amount	Cash flow	0–6 mths	6 mths–1 yr	1–2 yrs	More than 2 yrs
Interest-bearing liabilities	216,144	232,281	46,907	70,388	63,590	51,396
Accounts payable	72,817	72,817	72,817	0	0	0
Lease liabilities	11,265	11,699	2,337	2,337	5,976	1,050
Derivative liabilities	57,613	57,613	45,516	11,910	187	0
Total	**357,838**	**374,410**	**167,577**	**84,635**	**69,753**	**52,446**

Market risk

The Group's sales in 2022 amounted to EUR 584.4 million (2021: 378.5). Selling prices are especially affected by world-wide prices of nickel and zinc. The importance of hedging instruments to the company's financial position and projected profitability for the next 12 months was high on 31 December 2022. The company had set up a cash flow hedge against a weakening US dollar with a hedging rate of approximately 50 percent. The company had set up a cash flow hedge against falling nickel prices for the company's projected nickel deliveries for the following year using derivatives and fixed-term sales agreements, with a hedging rate of approximately 50 percent. For planned zinc deliveries company has set up a hedge with a hedging rate of approximately 23 percent. In addition, in line with its hedging policy, the company had set up hedges for almost all of its nickel and zinc deliveries, which had been completed and previously reported as sales. As a result, the change in market prices after the closing of the accounts has hardly no effect on the deliveries reported as sales for the financial year 2022.

1.24 Provisions – rehabilitation provision

Long-term provisions on the balance sheet are related to the environmental and rehabilitation liabilities associated with the Group's mine and production plants. The provisions are based on estimates of future liabilities.

Non-current

Rehabilitation provision	**31 Dec 2022**	**31 Dec 2021**
At beginning of year	232,024	159,077
Increase	0	72,947
Changes due to discounting	-34,244	0
Unwinding of the discount	7,471	0
At end of year	205,251	232,024
Total non-current	**205,251**	**232,024**
Estimated cost of the rehabilitation provision		
Rehabilitation of bioleaching areas	108,079	122,177
Other rehabilitation work	97,172	109,847
Total estimated rehabilitation costs	**205,251**	**232,024**

On 20 June 2022, the Regional State Administrative Agency for Northern Finland issued its decision on the environmental and water permit covering all Terrafame's operations – that is, the master permit. The master permit determines the scope of all operations (including new short-term plans), sets emission limits and defines an environmental guarantee for discontinued operations. The new permit also enables ongoing development projects to proceed as planned.

However, the permit decision increased Terrafame's environmental guarantee from EUR 138 million to EUR 324 million, which is high even by global comparison. In the third quarter of 2022, Terrafame filed an application with the Vaasa Administrative Court about the accounting principles of the guarantee.

Terrafame already increased the environmental provision in its financial statements for 2021, and the provision remained unchanged in Terrafame's financial statements for 2022. In the Group´s financial statements for 2022, the provision has been discounted during the year due to higher interest rates and rising inflation. Discounting decreased the provision by EUR 34.2 million, and the unwinding of the discount during the financial period increased the provision by EUR 7.5 million. The impact of discounting the provision on the Group's operating result (IFRS) is EUR -7.5 million. The amount of the provision in the consolidated balance sheet on 31 December 2022 was 205.2 million (2021: 232.0).

Terrafame has prepared for the costs generated by the closure measures with an environmental provision, which is included in the balance sheet and updated annually. Where applicable, the provision complies with the environmental permit as well as the area-based estimate for the closure issued by the Regional State Administrative Agency for Northern Finland. The carrying amount of provision in Terrafame's financial statements (FAS) on 31 Dec 2022 amounts to EUR 232.0 (2021: 232.0), the company's estimate of the provision has remained unchanged.

1.25 Interest-bearing liabilities

Non-current financial liabilities measured at amortised cost	**31 Dec 2022**	**31 Dec 2021**
Loans from financial institutions – finance loan	101,129	108,894
Other payables – installment credit	0	125
Lease liability	1,034	6,898
Total	**102,163**	**115,917**

Current financial liabilities measured at amortised cost		
Loans from financial institutions – finance loan	133,686	107,010
Other payables – installment credit	126	115
Lease liability	5,887	4,367
Total	**139,700**	**111,492**

The fair values of current and non-current liabilities do not differ significantly from their carrying amounts.

1.26 Provisions, trade and other payables

Current	**31 Dec 2022**	**31 Dec 2021**
Advances received	0	353
Accounts payable	105,717	72,817
Accruals and deferred income	25,133	22,255
Derivative liabilities	84,855	57,613
Other payables	1,366	10,938
Total	**217,071**	**163,976**

Non-interest bearing liabilities by currency	**31 Dec 2022**	**31 Dec 2021**
EUR		
USD	104,667	68,058
GBP	0	51
SEK	2	11
EUR	112,402	95,856
Total	**217,071**	**163,976**

During the financial year 2022 and 2021, derivative assets and liabilities were recognised at fair value. A breakdown of these is presented in the Notes to hedging derivatives (see 1.20).

Classification of financial assets and liabilities

31 Dec 2022	**Carrying amount**			**Total carrying amount**	**Fair value**	Level 1	Level 2	Level 3
	Measured at amortised cost	Measured at fair value through profit or loss	Covered by hedge accounting					
Financial assets								
Derivatives			13,847	13,847	13,847		13,847	
Trade receivables	66,701			66,701	66,701			
Cash and cash equivalents	48,330			48,330	48,330			
Total	**115,031**	**0**	**13,847**	**128,879**	**128,879**			
Financial liabilities								
Loans from financial institutions	234,846			234,816	234,816			
Other liabilities – installment credit	126			126	126			
Lease liabilities	6,921			6,921	6,921			
Accounts payable	105,717			105,717	105,717			
Derivatives			84,855	84,855	84,855		84,855	
Total	**347,579**	**0**	**84,855**	**432,435**	**432,435**			

For financial assets and liabilities measured at amortised cost, the carrying amount is considered to be the best estimate of their fair value. The Group made no transitions between the classification levels of fair value during the financial year.

31 Dec 2021	**Carrying amount**			**Total carrying amount**	**Fair value**	Level 1	Level 2	Level 3
	Measured at amortised cost	Measured at fair value through profit or loss	Covered by hedge accounting					
Financial assets								
Derivatives			181	181	181		181	
Trade receivables	24,163			24,163	24,163			
Cash and cash equivalents	78,353			78,353	78,353			
Total	**102,516**	**0**	**181**	**102,697**	**102,697**			
Financial liabilities								
Loans from financial institutions	215,904			215,904	215,904			
Other liabilities – installment credit	240			240	240			
Lease liabilities	11,265			11,265	11,265			
Accounts payable	72,817			72,817	72,817			
Derivatives			57,613	57,613	57,613		57,613	
Total	**300,226**	**0**	**57,613**	**357,838**	**302,937**			

Classification level 1 fair values are based on the quoted (unadjusted) prices of identical assets or liabilities in an appropriate market. In determining the fair value of these instruments, the Group has mainly used Bloomberg valuations as the source of prices and the Group has verified that the prices received represented actual and frequent market transaction prices for the instruments in question.

The fair values of instruments in classification level 2 are for a significant part based on inputs other than the prices quoted in classification level 1, however, it is based on data that is observable for the asset or liability in question either directly (as the price) or indirectly (derived from the price). In order to determine the fair value of these instruments, the Group uses generally accepted valuation models, the inputs of which are nonetheless for a significant part based on observable market data.

The fair values of level 3 instruments, on the other hand, are based on inputs on an asset or a liability that are not based on observable market data (unobservable inputs) but for a significant part on estimates made by management and the generally accepted methods of valuation used.

The fair value classification level for a specific item measured at fair value as a whole is determined on the basis of the lowest level input data relevant to the item in question. The significance of the input has been assessed in relation to the item measured at fair value as a whole.

1.27 Adjustments to cash flows from operating activities

	2022	2021
Adjustments to operating profit/loss		
Unrealised foreign exchange gains and losses	9,031	14,297
Finance income and costs	29,375	6,205
Other income and expenses that do not include payments	257	0
Reversal of impairment loss, Keliber	-8,155	0
Share of profit from associated companies	1,295	1,368
Other adjustments	20	0
Total	**31,824**	**21,871**

Changes in liabilities arising from financing activities

	1 Jan 2022	Changes arising from cash flows	Non-cash changes			31 Dec 2022
			Foreign exchange movements	Transfers	Other changes	
Non-current liabilities	109,019	0	414	-84,413	76,110	101,129
Current liabilities	107,125	-67,644	9,919	84,413	0	133,813
Lease liabilities						
non-current	6,898	0	0	-5,886	21	1,034
current	4,367	-4,353	0	5,873	0	5,887
Total liabilities arising from financing activities	**227,409**	**-71,997**	**10,333**	**-13**	**76,131**	**241,863**

	Non-current liabilities	Current liabilities	Non-current lease liabilities	Current lease liabilities	Total liabilities from financial operations
Net liabilities 1 Jan 2021	183,217	76	9,021	3,512	195,826
Cash flows	0	-75	0	-4,119	-4,194
Date of acquisition	17,298	0	1,918	933	20,149
Exchange rate variations	19,628	-4,001	0	0	15,627
Other changes that do not include payment	-111,124	111,124	-4,041	4,041	0
Net liabilities 31 Dec 2021	**109,019**	**107,125**	**6,898**	**4,367**	**227,409**

	Non-current liabilities	Current liabilities	Non-current lease liabilities	Current lease liabilities	Total liabilities from financial operations
Net liabilities 1 Jan 2022	109,019	107,125	6,898	4,367	227,409
Cash flows	0	-67,644	0	-4,353	-71,997
Date of acquisition	76,110	0	21	0	76,131
Exchange rate variations	414	9,919	0	0	10,333
Other changes that do not include payment	-84,413	84,413	-5,886	5,873	-13
Net liabilities 31 Dec 2022	**101,129**	**133,813**	**1,034**	**5,887**	**241,863**

1.28 Related party transactions

The key related parties of Finnish Minerals Group include the State of Finland, which is the Group's only shareholder, and the associated companies Keliber Oy, CNGR Finland Oy, Adven-FMG Sulphate Solutions Oy, and Galena Private Equity Resources Investment 2 L.P., Galena Private Equity Resources Investment 3 L.P. and Galena Private Equity Resources Investment 4 L.P. funds, as well as Trafigura Ventures V B.V. The related parties also include members of Boards, CEOs and management team members of Group companies, persons responsible for Terrafame's commercial agreements, immediate family members of persons referred to here, and entities in which they or their immediate family members exercise control or significant influence. Finnish Minerals Group's related parties also include companies in which the Government of Finland exercises control or significant influence. The company has applied an exemption pursuant to which it only reports significant transactions with Government-related companies.

Financing arrangements are in place between Terrafame and Trafigura Group Pte. Ltd., between the company and three funds – Galena Private Equity Resources Investment 2 L.P., Galena Private Equity Resources Investment 3 L.P. and Galena Private Equity Resources Investment 4 L.P. – and between the company and Finnish Minerals Group. The value of Terrafame's related-party borrowings is EUR 121.4 million. The commercial agreements between Terrafame and Trafigura Nat Gas Limited generated EUR 686.6 million in sales during the financial year. Terrafame has spent approximately EUR 0.5 million on legal and other administrative services and approximately EUR 0.2 million on management services for product development projects purchased from Finnish Minerals Group.

Business transactions with related parties	**31 Dec 2022**	**31 Dec 2021**
Net sales from goods and services		
Other related entities	686,595	437,603
Purchases of goods and services		
Other related entities	53,477	43,132
Open balances on sales and purchases of goods and services		
Trade receivables		
Other related entities	53,893	23,563
Accounts payable		
Other related entities	9,332	5,437
Loans received		
Other related entities	121,360	159,720

Executives' benefits	**2022**	**2021**
Salaries and other short-term benefits	2,675	2,750
Termination benefits	0	0
Post-employment benefits	0	0
Other long-term employee benefits	0	0
Share-based payments	0	0
Total	**2,675**	**2,750**

The Executives' benefits table includes the salaries and remunerations of the Board of Directors and CEOs and the executives of Group companies.

Wages and salaries	**31 Dec 2022**	**31 Dec 2021**
Parent company		
CEO	247	248
Members of the Board of Directors		
Teija Kankaanpää	23	18
Ilpo Korhonen	24	20
Antti Kummu	34	28
Olavi Huhtala	20	0
Janne Känkänen	5	20
Eeva Ruokonen	25	18
Pauli Anttila	29	1
Jukka Ohtola	24	9
Total remuneration of the Board of Directors	**183**	**114**
Terrafame Oy (subsidiary)	**31 Dec 2022**	**31 Dec 2021**
CEO	394	387
Members of the Board of Directors		
Lauri Ratia	79	79
Jesus Fernandez	43	43
Emmanuel Henry	21	44
Julian Sanchez	22	0
Matti Hietanen	33	0
Esa Lager	0	12
Riitta Mynttinen	43	43
Tuomo Mäkelä	43	44
Jyrki Vainionpää	43	31
Total remuneration of the Board of Directors	**327**	**296**
Total wages and salaries	**1,152**	**1,045**

At the end of the financial year 2022 and 2021, management and the members of the Board of Directors of Finnish Minerals Group or Terrafame Oy and their related parties do not own the company's shares.

All business transactions between the Group companies and their related parties conformed to accepted market practices.

The pension cover of key personnel is determined on the basis of statutory pension provision. There are no option or other share-based incentive schemes in place for executives.

1.29 Parent company and subsidiary relationships of the Group

Company	**Domicile**	2022 **Holding (%)**	2022 **Share of votes (%)**	2021 **Holding (%)**	2021 **Share of votes (%)**
Finnish Minerals Group – parent company	Finland				
Terrafame Oy	Finland	67.0%	67.0%	67.1%	67.1%
Finnish Battery Chemicals Oy	Finland	100.0%	100.0%	100.0%	100.0%
FBC project 2 Oy	Finland	100.0%	100.0%	100.0%	100.0%
FBC project 201 Oy	Finland	100.0%	100.0%	100.0%	100.0%
Sokli Holding Oy	Finland	100.0%	100.0%	100.0%	100.0%
Sokli Oy	Finland	100.0%	100.0%	100.0%	100.0%

The Group's parent company provides administrative services to the companies belonging to the Group.

1.30 Events after the balance sheet date

The financial period of Finnish Minerals Group ended on 31 December 2022. The company has made the following announcements after that date.

In February, Sokli's stakeholders and the general public were informed about the assessment results and future of the mining project planned in Savukoski. The Northern Finland Regional State Administrative Agency was informed about cancelling the project's permit procedure initiated by the previous operator. A new preliminary assessment shows that a new approach needs to be applied in the EIA and permit procedures of the potential investment project.

Also in February, an announcement was made about the signing of a cooperation agreement with listed (NYSE) company FREYR Battery for the assessment of possibilities to establish an LFP cathode material plant in Vaasa.

PARENT COMPANY FINANCIAL STATEMENTS (FAS)

PARENT COMPANY INCOME STATEMENT

(EUR 1,000)

Finnish Minerals Group	**Note**	**2022**	**2021**
Net sales	2.1	1,652	1,748
Gross profit		**1,652**	**1,748**
Other operating income	2.2	394	13
Administrative expenses	2.4	-4,506	-3,271
Research and development costs	2.5	-1,999	-1,784
Operating profit/loss		**-4,459**	**-3,294**
Finance income and cost	2.6		
Other interest and finance income		540	283
Impairment of investments held as non-current assets - reversal of impairment		8,155	66
Interest and other finance expenses		-5	-40
Total finance income and cost		8,691	309
Profit/loss before tax		**4,232**	**-2,986**
Income taxes		0	0
Profit/loss for the period		**4,232**	**-2,986**

PARENT COMPANY BALANCE SHEET

(EUR 1,000)	**Note**	**31 Dec 2022**	**31 Dec 2022**
ASSETS			
Non-current assets			
Intangible assets	2.7		
Development costs		236	213
Investments			
Amounts owed by Group companies	2.8	537,481	537,481
Investments in associates	2.9	24,655	16,500
Total non-current assets		**562,372**	**554,194**
Current assets			
Non-current receivables			
Receivables from Group companies	2.10	14,509	7,480
Current receivables			
Current receivables	2.11	970	971
Cash and cash equivalents	2.12	2,421	13,221
Total current assets		**17,901**	**21,672**
TOTAL ASSETS		**580,273**	**575,866**
LIABILITIES			
Equity	2.13		
Subscribed capital		2,258	2,258
Invested unrestricted equity fund		606,151	606,151
Profit/loss from previous periods		-34,252	-31,266
Profit/loss for the period		4,232	-2,986
Total equity		**578,388**	**574,156**
Current liabilities			
Current liabilities	2.14	1,885	1,710
Total current liabilities		1,885	1,710
TOTAL LIABILITIES		**580,273**	**575,866**

PARENT COMPANY CASH FLOW STATEMENT

(EUR 1,000)	**2022**	**2021**
Cash flow from operating activities		
Profit/loss for the period	4,232	-2,986
Adjustments to operating profit/loss	-8,662	-196
Change in working capital	175	893
Interest paid	-5	-40
Interest received	11	27
Net cash flow from operating activities	**-4,249**	**-2,302**
Cash flow from investing activities		
Investments in tangible and intangible assets	-51	-26
Proceeds from disposal of tangible and intangible assets	0	0
Investments in other investments	-6,500	-8,798
Proceeds from disposal of other investments	0	66
Investments in subsidiaries	0	-64,384
Net cash used in investing activities	**-6,551**	**-73,143**
Cash flow from financing activities		
Subscription issue	0	50,000
Cash flow from financing activities	**0**	**50,000**
Change in cash and cash equivalents	**-10,800**	**-25,445**
Cash and cash equivalents at the beginning of the period	13,221	38,666
Cash and cash equivalents at the end of the period	**2,421**	**13,221**

PARENT COMPANY'S ACCOUNTING POLICIES AND NOTES

Accounting policies

The scope of financial statements, and accounting policies

The company has prepared the financial statements in accordance with Finnish accounting legislation and Finnish Accounting Standards (FAS). The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS).

The financial statement information is reported in tables and related texts in thousands of euros and in the report of the Board of Directors in millions of euros to one decimal place. The comparative figures reported in brackets are figures for the financial year 2021. All the presented figures have been rounded according to general rounding rules, so the sum of the individual figures may be different from the sum presented. Key figures have been calculated using exact values. Comparative information has been adjusted where necessary to correspond with the information of the year under review.

Transactionsin foreign currencies

Transactions in foreign currency are recorded at the rate prevailing on the transaction date. Receivables and liabilities on the balance sheet on the closing date of the accounts are value at closing rate.

Research and development costs

Research expenditure is treated as annual expenses and recognised as an expense in the income statement. The costs incurred in the development of battery business and battery technologies are capitalised on the balance sheet if the development activities are expected to generate income beyond the current accounting period. Capitalised development costs are amortised over ten years as planned.

Amortisation of pension costs

Pension expenditure is recognised as an expense in the year it was accrued.

Receivables

Receivables are valued at nominal value or at a lower probable value.

Non-current assets

Shares in subsidiaries are stated on the balance sheet at historical cost. If the future income generated from shares is estimated to be permanently lower than the undepreciated acquisition cost, the difference is entered as an expense under impairment.

Deferred taxes

No deferred tax assets or liabilities have been recognised on temporary differences between taxation and financial statements, but these have been presented in the notes. The most significant temporary difference is the loss to be confirmed for the financial period.

2 PARENT COMPANY'S NOTES

2.1 Net sales

	2022	2021
Intra-group sales	1,652	1,738
Selling to others	0	10
Total	**1,652**	**1,748**

2.2 Other operating income

	2022	2021
Grants and subsidies received	275	178
Other income	119	-165
Total	**394**	**13**

2.3 Personnel expenses and number of employees

Personnel expenses	**2022**	**2021**
Wages and salaries	3,117	2,275
Pension costs	519	364
Other social security expenses	106	67
Total	**3,742**	**2,706**
Average number of employees		
White-collar employees	32	21
	32	**21**

2.4 Administrative expenses

Personnel expenses	**2022**	**2021**
Wages and salaries	2,403	1,718
Pension costs	400	275
Other social security expenses	82	50
Total	**2,886**	**2,043**
Auditors' fees		
Auditing	44	47
Certificates and reports	0	2
Tax advisory services	62	14
Other services	6	1
Total	**112**	**64**
Travel expenses	225	72
Rents	142	134
Other legal and consulting services	93	317
Other administrative expenses, Group	32	10
Other administrative expenses	1,016	631
Total administrative expenses	**4,506**	**3,271**
Management salaries and fees		
CEO and Board members	430	363

2.5 Research and development costs

	2022	2021
Total research and development costs recognised as an expense	1,999	1,784

2.6 Finance income and expenses

	2022	2021
Other interest and finance income		
From Group companies	529	256
From other companies	11	27
Impairment of investments held as non-current assets	8,155	66
Interest and other finance expenses		
To other companies	-5	-40
Total	**8,691**	**309**

2.7 Intangible assets

	Development costs	**Total**
Carrying amount 31 Dec 2021	**213**	**213**
Acquisition cost 1 Jan 2022	359	359
Capitalised during the period	51	51
Acquisition cost 31 Dec 2022	410	410
Accumulated amortisation and impairment losses 1 Jan 2022	146	146
Amortisation for the year	28	28
Accumulated amortisation and impairment losses 31 Dec 2022	174	174
Carrying amount 31 Dec 2022	**236**	**236**

2.8 Investments in subsidiaries

Shares in Group companies	
Carrying amount 31 Dec 2021	537,481
Acquisition cost 1 Jan 2022	537,481
Acquisition cost 31 Dec 2022	537,481
Carrying amount 31 Dec 2022	537,481

Group companies **Parent company holdings**	**31.12.2022**	**31.12.2021**
Terrafame Oy, Sotkamo, Finland	67.0%	67.1%
Finnish Battery Chemicals Oy, Helsinki, Finland	100.0%	100.0%
Sokli Holding Oy, Helsinki, Finland	100.0%	100.0%

2.9 Investments in associates

	Holdings in associated companies	Total
Carrying amount 31 Dec 2021	16,500	16,500
Acquisition cost 1 Jan 2022	24,655	24,655
Acquisition cost 31 Dec 2022	24,655	24,655
Accumulated impairment losses 1 Jan 2022	-8,155	-8,155
Reversal of impairment loss	8,155	8,155
Accumulated impairment losses 31 Dec 2022	0	0
Carrying amount 31 Dec 2022	**24,655**	**24,655**

31 Dec 2022	Company holdings	Book-entry	Number of shares	Carrying amount
Keliber Oy, Kaustinen, Finland	13,9%	Class B shares	479,868	24,655

During 2022, the shareholding in Keliber Oy decreased to 13.9 per cent as a result of the share issue carried out by the associated company. Keliber's impairment loss of EUR 8.2 million recognised in previous periods was reversed in 2022. The company's status as Finnish Minerals Group's associated company remains unchanged.

2.10 Non-current receivables

	31 Dec 2022	31 Dec 2021
Receivables from Group companies	14,509	7,480
Total receivables	**14,509**	**7,480**

2.11 Current receivables

	31 Dec 2022	31 Dec 2021
Receivables from Group companies	650	696
Trade receivables	0	12
Lease guarantees	37	37
Tax account receivable	72	45
Prepaid expenses and accrued income	210	180
Total receivables	**970**	**970**

2.12 Cash and cash equivalents

	31 Dec 2022	31 Dec 2021
Cash in hand and at banks	2,421	13,221

2.13 Equity

	31 Dec 2022	31 Dec 2021
Subscribed capital 1 Jan	2,258	2,258
Subscribed capital 31 Dec	2,258	2,258
Total restricted equity	2,258	2,258
Invested unrestricted equity fund 1 Jan	606,151	556,151
Issued shares	0	50,000
Invested unrestricted equity fund 31 Dec	606,151	606,151
Profit/loss from previous periods	-34,252	-31,266
Profit/loss for the period	4,232	-2,986
Total unrestricted equity	576,130	571,899
Total equity	578,388	574,156
Calculation of distributable funds		
Invested unrestricted equity fund	606,151	606,151
Profit/loss from previous periods	-34,252	-31,266
Profit/loss for the period	4,232	-2,986
Capitalised development costs	-236	-213
Total distributable funds	**575,895**	**571,686**

2.14 Current liabilities

	31 Dec 2022	31 Dec 2021
Amounts owed to Group companies		
Accounts payable	0	47
Advances received	0	353
Accounts payable	358	356
Other liabilities – taxes withheld and social security expenses	79	77
Value added tax liability	44	28
Accrued expenses and deferred income – wages and salaries with social security expenses	534	434
Accrued expenses and deferred income – other	869	415
Total	**1,885**	**1,710**

2.15 Other notes

	31 Dec 2022	31 Dec 2021
Contingent liabilities and other liabilities		
Amounts due on leases and leasing commitments		
Within one year	90	72
After one year but within five years	0	0
Total	**90**	**72**

The company has confirmed losses for the tax years 2015 to 2021 amounting to approximately EUR 25.8 million, for which no deferred tax asset has been recognised. The unrecognised deferred tax asset for the confirmed losses amounts to approximately EUR 5.2 million. The estimated loss for the tax year 2022 is approximately EUR 3.9 million, for which unrecognised deferred tax asset amounts to EUR 0.8 million.

Signatures to the financial statements

In Helsinki, 20 March 2023

Antti Kummu
Chair of the Board of Directors

Teija Kankaanpää

Ilpo Korhonen

Janne Känkänen

Eeva Ruokonen

Jukka Ohtola

Pauli Anttila

Matti Hietanen
CEO

Auditor's confirmation

A report on the audit has been issued today.

In Helsinki, 20 March 2023

KPMG Oy Ab
Authorised Public Accountants

Antti Kääriäinen
APA

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